# DRAFT

# ENVIRONMENTAL IMPACT REPORT

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# LODI SHOPPING CENTER

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**STATE CLEARINGHOUSE NO. 2003042113**

*Prepared for*

## CITY OF LODI

*Prepared by*

PMC

PACIFIC MUNICIPAL CONSULTANTS

**AUGUST 2004**

## VOLUME I OF II
## EIR TEXT AND APPENDIX A

# DRAFT

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# LODI SHOPPING CENTER

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STATE CLEARINGHOUSE NO. 2003042113

*Prepared for*


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AUGUST 2004

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# INTRODUCTION

## Legal Basis of the EIR

This Environmental Impact Report (EIR) has been prepared by the City of Lodi as Lead Agency in conformance with the California Environmental Quality Act (CEQA) of 1970, as amended, to inform public decision-makers and the public of the projects and plans that they propose to consider.

The following sections from the CEQA Guidelines define the role and purpose of an EIR:

> **§15121(a) Informational Document.** An EIR is an informational document which will inform public agency decision-makers and the public generally of the significant environmental effect of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project. The public agency shall consider the information in the EIR along with other information which may be presented to the agency.
>
> **§15151 Standards of Adequacy of an EIR.** An EIR should be prepared with a sufficient degree of analysis to provide decision-makers with information which enables them to make a decision which intelligently takes account of environmental consequences. An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is reviewed in light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among experts. The courts have not looked for perfection but for adequacy, completeness, and a good faith effort at full disclosure.

## Environmental Topics Covered in This EIR

Section 15126 of the CEQA Guidelines states that an EIR shall identify and focus on the significant environmental effects of a proposed project. The potentially significant impacts that could result from the project were identified through preparation of the Notice of Preparation (NOP), and from written comments received on the NOP. (The NOP and written comments received are contained in Appendix A.) Based on this initial scoping and coordination effort, the City of Lodi staff identified the following environmental topics to be addressed in this EIR:

- Land Use and Planning
- Agricultural Resources
- Geology and Soils
- Hydrology and Water Quality
- Biological Resources
- Cultural Resources
- Aesthetics
- Traffic and Circulation
- Noise
- Air Quality
- Hazardous Materials
- Utilities and Service Systems
- Public Services

## Effects Found Not to be Significant

The initial scoping effort identified several environmental topics or issues where potentially significant impacts would not be associated with the project. The issues for which the potential project effects were

found not to be significant are listed below, along with a brief discussion of the reasons why these issues were found not to be significant.

Mineral Resources: No mineral resources of regional or statewide importance exist in the City of Lodi, including the project site. Therefore, the project would not result in the loss of availability of such resources.

Population and Housing: The project site is currently vacant of buildings and structures. As such, the project will not displace substantial numbers of houses or people. The potential for the project to induce population growth is addressed in the EIR in Section *VI. Growth-Inducing Effects of the Proposed Project.*

Recreation: The project does not include a residential component which could result in increased use of or demand for neighborhood or regional parks, or other recreational facilities. The project also does not include the construction or expansion of recreational facilities, nor are there recreational facilities in the project vicinity which could be adversely affected by the project.

**Environmental Review Process**

The review and certification of the EIR will involve the following procedural steps:

Notice of Preparation (NOP): Upon the City's determination that an EIR was required for this project, a Notice of Preparation was made available to the public and public agencies to solicit input on issues of concern that should be addressed in the EIR. The NOP included a project description, project location, and a brief overview of the topics to be covered in the EIR.

Notice of Completion (NOC): Upon completion of the Draft EIR, the City will file a Notice of Completion with the State Clearinghouse, Office of Planning and Research, along with the Draft EIR, to begin the public and agency review period for the Draft EIR.

Public Notice/Public Review: Concurrent with filing the NOC, the City will publish and distribute the Notice of Availability of the DEIR, and invite comment from the general public, agencies, organizations, and other interested parties. The length of the public review period is 45 days, during which time written comments on the DEIR will be accepted. The Planning Commission will hold a public meeting during the 45-day review period to receive oral comments on the DEIR.

Response to Comments: After the close of the public review period, the City will prepare formal responses to the written comments received, along with an addendum section indicating any revisions made to the EIR. A Final EIR will be prepared which contains the comment letters, responses to comments, and the addendum. The Draft EIR will remain a separately bound volume, and will be incorporated into the Final EIR by reference only.

Certification of the EIR: The Planning Commission will hold a second hearing to consider the completeness of the EIR under CEQA (see 'Standards of Adequacy of an EIR' above), and will adopt a resolution to certify the EIR. Once the EIR is certified, the Planning Commission may consider the project for approval.

Project Approval: Since the project will not require a General Plan amendment or Rezoning which would require City Council approval, the project will require approval only by the Planning Commission, unless the approval is appealed to the City Council. If appealed, the City Council will be the final decision-making body on the EIR certification and the project approval.

Notice of Determination (NOD): Within five working days of project approval, CEQA requires that the City file an NOD with the County Clerk, which certifies that the project has been approved. This filing begins the running of a 30-day Statute of Limitations period during which legal challenges to the EIR may be filed in Superior Court.

Mitigation Monitoring and Reporting Program: Upon certification of the EIR, the Planning Commission will also adopt a program for monitoring and reporting on the measures it has imposed to mitigate, avoid, or substantially lessen the significant impacts of the project. These measures will be fully enforceable through permit conditions, agreements, or other measures. The City of Lodi will be responsible for ensuring that implementation of the mitigation measures occurs in accordance with the program.

# SUMMARY

## PROJECT DESCRIPTION

### Site Location and Description

The proposed Lodi Shopping Center ("project") consists of an approximately 36-acre site located at the southwest corner of West Kettleman Lane/State Route 12 and Lower Sacramento Road in west Lodi. The site was previously in agricultural cultivation for row crops and is currently fallow (albeit disced for weed control, except for approximately four acres in the southwest corner of the site (stormwater basin site) which are planted in alfalfa. There are no structures on the project site with the exception of two agricultural wells.

### Project Overview

The proposed project includes the construction of approximately 339,966 square feet of commercial retail uses, representing a variety of retail sales and services, to be contained in 13 buildings of varying sizes. The primary user will be Wal-Mart which will occupy approximately 226,868 square feet of floor area, including approximately 70,000 square feet for grocery sales, 19,889 square feet for a garden center (including outdoor fenced area), and 6,437 square feet for an auto service shop. The Wal-Mart store will not include the use of outdoor metal storage containers, and will not include a seasonal sales area in the parking lot.

A moderate sized retailer will occupy approximately 35,000 square feet on Pad 12 in the southeast corner of the site. The remaining 11 buildings will range in size from 3,200 square feet to 14,788 square feet, three of which will be occupied by fast food franchises, with another two users consisting of sit-down restaurants, and the remaining seven buildings occupied by such retail uses as pharmacy, financial services/bank, professional/business services, and other retail sales and services.

Since the project is consistent with the current General Plan and zoning designations for the site, the main discretionary City actions requested for the project consist of use permit and parcel map approval.

The following is a **brief summary** of project impacts and mitigation measures addressed in the main body of this EIR. The complete project description and discussion of impacts and mitigations is contained in the main text of the EIR.

# SUMMARY OF IMPACTS AND MITIGATIONS

| IMPACTS | MITIGATION |
|---|---|
| **A. LAND USE AND PLANNING** | |
| A1. Consistency with General Plan and Zoning Ordinance. The proposed retail shopping center is consistent with the governing designations of the City of Lodi General Plan and Zoning Ordinance. **(Less-than-Significant Impact)** | A1. No mitigation required. |
| A2. Land Use Compatibility. The project would constitute a substantial change in land use on the site; however, it would not result in significant conflicts or incompatibility with adjacent or nearby land uses. **(Less-than-Significant Impact** | A2. No mitigation required. |
| A3. Potential for Blight Due to Socioeconomic Impacts. The project would include new retailers who would compete with existing retailers in the City of Lodi; however, this increased competition would not result in any business closures and consequently would not indirectly result in substantial physical deterioration of properties, or blight. **(Less-than-Significant Impact)** | A3. No mitigation required. |
| **B. AGRICULTURAL RESOURCES** | |
| B1. Agricultural Land Conversion. The project would convert approximately 40 acres of prime agricultural land to urban uses. As stated in the City's General Plan, no mitigation is available which would reduce this impact to a less-than-significant level except an outright prohibition of all development on prime agricultural lands. **(Significant and Unavoidable Impact)** | B1. There are no feasible mitigation measures available to reduce the impact of agricultural land conversion a less-than-significant level. **(Significant and Unavoidable Impact)** |
| B2. Agricultural-Urban Land Use Conflicts. Development of the project site could create minor land use conflicts with nearby agricultural operations. **(Less-than-Significant Impact)** | B2. No mitigation required. |

| IMPACTS | MITIGATION |
|---|---|
| **C. GEOLOGY AND SOILS** | |
| C1. Seismic Ground Shaking. Strong ground shaking occurring on the site during a major earthquake event could cause severe damage to project buildings and structures. **(Significant Impact)** | C1. Structural damage to buildings resulting from ground shaking shall be minimized by following the requirements of the Uniform Building Code, and implementing the recommendations of the project geotechnical engineer. **(Less-than-Significant Impact with Mitigation)** |
| C2. Seismic Settlement. There is a potential for seismically-induced ground settlements at the site, which could result in damage to project foundations and structures. **(Significant Impact)** | C2. If subsequent geotechnical studies indicate unacceptable levels of potential seismic settlement, available measures to reduce the effects of such settlements would include replacement of near-surface soils with engineered fill, or supporting structures on quasi-rigid foundations, as recommended by the project geotechnical engineer. **(Less-than-Significant with Mitigation)** |
| C3. Stormwater Basin Bank Instability. There is a potential for bank instability along the banks of the proposed basin. **(Significant Impact)** | C3. Design-level geotechnical studies shall investigate the potential of bank instability at the proposed basin and recommend appropriate setbacks, if warranted. **(Less-than-Significant Impact with Mitigation)** |
| C4. Soil Consolidation and Collapse. Soils present on the site are subject to moisture-induced collapse, which could result in damage to structures. **(Significant Impact)** | C4. The effects of soil consolidation and collapse can be mitigated by placing shallow spread foundations on a uniform thickness of engineered fill; specific measures shall be specified by an engineering geologist as appropriate in response to localize conditions. **(Less-than-Significant Impact with Mitigation)** |
| C5. Expansive Soils. There is a low potential for soils expansion at the site, which could result in differential subgrade movements and cracking of foundations. **(Significant Impact)** | C5. The potential damage from soils expansion would be reduced by placement of non-expansive engineered fill below foundation slabs, or other measure as recommended by the geotechnical engineer. **(Less-than-Significant Impact with Mitigation)** |
| C6. Soil Corrosivity. The corrosion potential of the on-site soils could result in damage to buried utilities and foundation systems. **(Significant Impact)** | C6. The potential damage from soil corrosivity can be mitigated by using corrosion-resistant materials for buried utilities and systems; specific measures shall be specified by an engineering geologist as appropriate in response to localized conditions. **(Less-than-Significant Impact with Mitigation)** |

| IMPACTS | MITIGATION |
|---|---|
| **D. HYDROLOGY AND WATER QUALITY** | |
| D1. Increased Stormwater Runoff. The project would result in a substantial increase in stormwater runoff generated at the site compared to existing conditions; however, the planned on-site stormwater basin and regulated discharges to the City of Lodi storm drain system and the Woodbridge Irrigation District Canal would avoid downstream flooding and drainage impacts. **(Less-than-Significant Impact)** | D1. No mitigation required. |
| D2. Flooding. During the 100-year storm event, the project site may be subject to shallow flooding to depths of less than one foot; however, all finished floors will be on raised pads at least one foot above existing ground elevations to prevent flooding of retail buildings. **(Less-than-Significant Impact)** | D2. No mitigation required. |
| D3. Erosion and Sedimentation. During grading and construction, erosion of exposed soils and pollutants from equipment may result in water quality impacts to downstream water bodies. **(Significant Impact)** | D3. A comprehensive erosion control and water pollution prevention program shall be implemented during grading and construction. (See EIR text for details.) **(Less-than-Significant Impact with Mitigation)** |
| D4. Urban Nonpoint Source Pollution. The project would generate urban nonpoint contaminants which may be carried in stormwater runoff from paved surfaces to downstream water bodies. **(Significant Impact)** | D4. The project shall include stormwater controls to reduce nonpoint pollutant loads. (See EIR text for details.) **(Less-than-Significant Impact with Mitigation)** |
| **E. BIOLOGICAL RESOURCES** | |
| E1. Loss of Habitat for Wildlife Species. The project would result in the loss of approximately 40 acres of ruderal habitat. **(Less-than-Significant Impact)** | E1. No mitigation required. |
| E2. Interference with Movement of Native Wildlife. Development projects can interfere with the movement of wildlife through an area; however, the project site does not function as an animal movement corridor, and site development would not act as a substantial barrier to animal movement through the area. **(Less-than-Significant Impact)** | E2. No mitigation required. |

| IMPACTS | MITIGATION |
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## E. BIOLOGICAL RESOURCES (CONT'D)

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| E3. Loss of Habitat for Special Status Animals. The project would result in the loss of approximately 40 acres of foraging habitat for three protected bird species, and could result in the loss of breeding habitat for two protected bird species. **(Significant Impact)** | E3. No mitigation required. |
| E4. Disturbance to Burrowing Owls and Raptors. The project could adversely affect any burrowing owls that may occupy the site prior to construction, and could also adversely affect any tree-nesting raptors that may establish nests in trees along the project boundaries prior to construction. **(Significant Impact)** | E4. The following measures shall be implemented to ensure that raptors (hawks and owls) are not disturbed during the breeding season:<br>• If ground disturbance is to occur during the breeding season (Feb. 1 to Aug. 31), a qualified ornithologist shall conduct a pre-construction survey for nesting raptors (including both tree- and ground-nesting raptors) on site within 30 days of the onset of ground disturbance. These surveys will be based on the accepted protocols (e.g., as for the burrowing owl) for the target species. If a nesting raptor is detected, then the ornithologist will, in consultation with CDFG, determine an appropriate ground disturbance-free zone (usually a minimum of 250 feet) around the tree that contains the nest or the burrow in which the owl is nesting. The actual size of the buffer would depend on species, topography, and type of construction activity that would occur in the vicinity of the nest. The setback area must be temporarily fenced, and construction equipment and workers shall not enter the enclosed setback area until the conclusion of the breeding season. Once the raptor abandons its nest and all young have fledged, construction can begin within the boundaries of the buffer.<br>• If ground disturbance is to occur during the non-breeding season (September 1 to January 31), a qualified ornithologist will conduct pre-construction surveys for burrowing owls only. (Pre-construction surveys during the non-breeding season are not necessary for tree nesting raptors since these species would be expected to abandon their nests voluntarily during construction.) (Continued on next page.) |

| IMPACTS | MITIGATION |
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## E. BIOLOGICAL RESOURCES (CONT'D)

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| | E4. (Continued from preceding page.)<br>• If ground disturbance is to occur during the non-breeding season (September 1 to January 31), a qualified ornithologist will conduct pre-construction surveys for burrowing owls only. (Pre-construction surveys during the non-breeding season are not necessary for tree nesting raptors since these species would be expected to abandon their nests voluntarily during construction.) If burrowing owls are detected during the non-breeding season, they can be passively relocated by placing one-way doors in the burrows and leaving them in place for a minimum of three days. Once it has been determined that owls have vacated the site, the burrows can be collapsed and ground disturbance can proceed.<br>**(Less-than-Significant Impact with Mitigation)** |

## F. CULTURAL RESOURCES

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| F1. Disturbance to Buried Cultural Resources. It is possible that previously undiscovered cultural materials may be buried on the site which could be adversely affected by grading and construction for the project. **(Significant Impact)** | F1. Implementation of the following measures will mitigate any potential impacts to cultural resources.<br>• In the event that prehistoric or historic archaeological materials are exposed or discovered during site clearing, grading or subsurface construction, work within a 25-foot radius of the find shall be halted and a qualified professional archaeologist contacted for further review and recommendations. Potential recommendations could include evaluation, collection, recordation, and analysis of any significant cultural materials followed by a professional report.<br>(Continued on next page.) |

| IMPACTS | MITIGATION |
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## F. CULTURAL RESOURCES (CONT'D)

F1. (Continued from preceding page.)

- In the event that fossils are exposed during site clearing, grading or subsurface construction, work within a 25-foot radius of the find shall be halted and a qualified professional paleontologist contacted for further review and recommendations. Potential recommendations could include evaluation, collection, recordation, and analysis of any significant paleontological materials followed by a professional report.

- If human remains are discovered, the San Joaquin County Coroner shall be notified. The Coroner would determine whether or not the remains are Native American. If the Coroner determines that the remains are not subject to his authority, he will notify the Native American Heritage Commission, who would identify a most likely descendant to make recommendations to the land owner for dealing with the human remains and any associated grave goods, as provided in Public Resources Code Section 5097.98.

**(Less-than-Significant Impact with Mitigation)**

## G. AESTHETICS

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| G1. Visual Change Resulting From Project. The project would result in a substantial change in the visual character of the site; however, this would not represent a significant adverse visual impact. **(Less-than-Significant Impact)** | G1. No mitigation required. |
| G2. Lighting and Glare. Lighting for the project buildings, parking lot, and loading areas could produce light and glare at off-site locations; however, this would be avoided by implementation of the City's lighting requirements. **(Less-than-Significant Impact)** | G2. No mitigation required. |

| IMPACTS | MITIGATION |
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| **H. TRAFFIC AND CIRCULATION** | |
| H1. Future Plus Project Signalized Intersection Operations (Access Alternative A and Access Alternative B). With the addition of project-generated traffic, study intersection Level of Service would remain unchanged from Future No Project conditions. There would be minor increases in average vehicle delays, ranging from 1 to 9 seconds at certain study intersections, which is not considered a significant and adverse change. **(Less-than-Significant Impact** | H1. No mitigation required. |
| H2. Future Plus Project Unsignalized Intersection Operations (Access Alternative A and Access Alternative B). The addition of project-generated traffic would exacerbate LOS F operations at the intersection of Lower Sacramento Road / Harney Lane during both a.m. and p.m. peak hour conditions. **(Significant Impact)** | H2. The project shall contribute its fair share cost to the installation of a traffic signal at Lower Sacramento Road and Harney Lane. **(Less-than-Significant Impact with Mitigation)** |
| H3. Cumulative Plus Project Signalized Intersection Operations (Access Alternative A and Access Alternative B). With the addition of project-generated traffic, all seven signalized study intersections would continue to operate at acceptable Level of Service Conditions. There would be minor increases in average vehicle delays, ranging from 2 to 9 seconds at certain study intersections, which is not considered a significant and adverse change. **(Less-than-Significant Impact)** | H3. No mitigation required. |
| H4. Cumulative Plus Project Access Conditions at the Signalized Access Drive Proposed Along the Lower Sacramento Road frontage. During the p.m. peak hour, the eastbound left-turn queue length of 250 feet (average queue) to 375 feet (95 Percentile queue) of exiting vehicles would extend west to the internal intersection located south of Pad 10 (applies to both Access Alternative A and B). **(Significant Impact)** | H4. Modify the project site plan to provide dual eastbound left-turn movements out of the project site onto northbound Lower Sacramento Road, consisting of a 150-foot left-turn pocket and a full travel lane back to the internal project site intersection. In the eastbound direction, a left-turn pocket and a full travel lane back to the signalized intersection will provide adequate capacity for inbound traffic. In addition, STOP signs shall be installed on all approaches except the westbound to provide continuous traffic flow into the project site and eliminate the potential for backups onto Lower Sacramento Road. On the Food 4 Less approach, a 100-foot left-turn pocket will be provided at the signalized intersection. **(Less-than-Significant Impact with Mitigation)** |

| IMPACTS | MITIGATION |
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| **H. TRAFFIC AND CIRCULATION (CONT'D)** | |
| H5. Cumulative Plus Project Access Conditions at Northern Unsignalized Access Drive Along Lower Sacramento Road. The addition of a northbound left-turn lane under Access Alternative B would result in Level of Service F conditions at this unsignalized intersection. (This condition does not occur under Access Alternative A where no northbound left-turn movement would occur.) In addition, a non-standard 60-foot back-to-back taper is provided between the northbound left-turn lane (Alternative B) at the northern unsignalized access drive and the southbound left-turn lane at the signalized project entrance. **(Significant Impact)** | H5. The following mitigations shall be implemented:<br>A) Extend a third southbound travel lane on Lower Sacramento Road from its current planned terminus at the signalized project driveway to the southern boundary of the project site;<br>B) Construct a 100-foot southbound right-turn lane at the signalized project driveway;<br>C) Extend the southbound left-turn pocket by 100 feet;<br>D) Extend the taper from 60 feet to a City standard 120-foot taper;<br>E) Eliminate the northbound left-turn lane into the northern project driveway (under Alternative B).<br>**(Less-than-Significant Impact with Mitigation)** |
| H6. Inadequate Left-turn Lane Taper on Westgate Drive. On Westgate Drive, a non-City standard 64 foot back-to-back taper is proposed between the northbound left-turn lane at W. Kettleman Lane and the southbound left-turn lane at the northern project driveway. **(Significant Impact)** | H6. The project site plan shall be modified to move the north project driveway on Westgate Drive south by 25 feet in order to accommodate the required 90-foot taper length. **(Less-than-Significant Impact with Mitigation)** |
| H7. Inadequate Left-turn Lane Taper on Lower Sacramento Road. On Lower Sacramento Road, a non-City standard 70 foot back-to-back taper is proposed between the dual northbound left-turn lanes at W. Kettleman Lane and the southbound left-turn lane at the middle Food 4 Less Driveway. **(Significant Impact)** | H7. The project site plan shall be modified to eliminate the southbound left-turn lane into the middle Food 4 Less Driveway. **(Less-than-Significant Impact with Mitigation)** |
| H8. Public Transit Service. Development of the project would create a demand for increased public transit service above that which is currently provided or planned. **(Significant Impact)** | H8. The project applicant shall work with and provide fair share funding to the City of Lodi Grapeline Service and the San Joaquin Regional Transit District to expand transit service to the project. **(Less-than-Significant Impact with Mitigation)** |
| H9. Public Transit Stop. Development of the project would create an unmet demand for public transit service which would not be met by the single transit stop proposed for the northwest portion of the project. **(Significant Impact)** | H9. Modify the project site plan to: 1) provide a bus bay and passenger shelter at the proposed transit stop; and 2) include a second transit stop in the eastern portion of the project near Lower Sacramento Road. **(Less-than-Significant Impact with Mitigation)** |

| IMPACTS | MITIGATION |
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| **H. TRAFFIC AND CIRCULATION (CONT'D)** | |
| H10. Bicycle Facilities. Development of the project would create a demand for bicycle facilities along West Kettleman Lane, Lower Sacramento Road, and Westgate Drive. **(Less-than-Significant Impact)** | H10. No mitigation required. |
| H11. Pedestrian Facilities. Development of the project would create an unmet demand for pedestrian facilities along West Kettleman Lane, Lower Sacramento Road and Westgate Drive, and internally between the different areas of the project site. **(Significant Impact)** | H11. Pedestrian walkways and crosswalks shall be provided to serve Pads 8, 9, and 12 in order to complete the internal pedestrian circulation system. **(Less-than-Significant Impact with Mitigation)**. |
| H12. Parking. Development of the project would create a demand for off-street parking spaces. **(Less-than-Significant Impact)** | H12. No mitigation required. |
| H13. Truck Access and Circulation. Development of the project would create a demand for on-site truck circulation and site access from W. Kettleman Lane, Lower Sacramento Road, and Westgate Drive; however, the project site plan indicates that adequate lane widths would be provided within the project site and that adequate curb radii are planned at the project driveway entrances and within the project for all types of trucks. **(Less-than-Significant Impact)** | H13. No mitigation required. |
| **I. NOISE** | |
| I1. Existing Off-Site Noise Sources. The project noise environment would be affected by existing off-site noise sources. **(Less-than-Significant Impact)** | I1. No mitigation required. |
| I2. Project Traffic Noise. Traffic generated by the project would increase noise levels at the residential properties in the vicinity. **(Less-than-Significant Impact)** | I2. No mitigation required. |

| IMPACTS | MITIGATION |
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## I. NOISE (CONT'D)

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|---|---|---|---|
| I3. | Noise from Project Activity. Noise generated by activity associated with the project would elevate off-site noise levels at existing and future residences in the vicinity. **(Significant Impact)** | I3. | The following noise mitigations are identified as appropriate for the various types of project activities, to reduce project noise at both existing and planned future adjacent development:<br>Parking Lot Activity. No mitigation is required for existing dwellings or for planned future residential development in the vicinity.<br>Delivery Truck Movements. No mitigation is required for existing dwellings or for planned future residential development in the vicinity.<br>Loading Dock/Material Movement Activity. No mitigation is required for existing dwellings or for planned future residential development in the vicinity.<br>Trash Compactors. No mitigation is required for existing dwellings in the vicinity or for planned future residential development in the vicinity.<br>Rooftop Mechanical Equipment. To ensure that the potential noise impact of mechanical equipment is reduced to less-than-significant levels, the applicant shall submit engineering and acoustical specifications for project mechanical equipment, for review prior to issuance of building permits for each retail building, demonstrating that the equipment design (types, location, enclosure specifications), combined with any parapets and/or screen walls, will not result in noise levels exceeding 45 dBA (Leq-hour) for any residential yards.<br>Automotive Service Bays. No mitigation is required for existing dwellings in the vicinity or for planned future residential development in the vicinity.<br>Parking Lot Cleaning. To assure compliance with the City of Lodi Noise Regulations regarding occasional excessive noise, leaf blowing in the southeast corner of the project site shall be limited to operating during the hours of 7:00 a.m. to 10:00 p.m.<br>**(Less-than-Significant Impact with Mitigation)** |

| IMPACTS | MITIGATION |
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| **J. NOISE (CONT'D)** | |
| I4. Noise from Stormwater Basin Pump. Occasional pumping of water from the stormwater basin would generate noise at the planned future residential areas to the south and west of the basin. **(Significant Impact)** | I4. The following measures shall be implemented to mitigate potential noise generated by the stormwater basin pump:<br>1) The pump shall be located as far as is feasible from the nearest future planned residential development. In addition, the noise levels generated by pump shall be specified to produce noise levels no greater than 45 dBA $L_{eq}$ at the nearest residential property lines. The pump facility shall be designed so that noise levels do not exceed 45 dBA at the nearest residential property lines. The pump may need to be enclosed to meet this noise level. Plans and specifications for the pump facility shall be included in the Improvement Plans for the project and reviewed for compliance with this noise criterion.<br>2) In order to avoid creating a noise nuisance during nighttime hours, pump operations shall be restricted to the hours of 7 a.m. to 10 p.m., except under emergency conditions (e.g., when the basin needs to be emptied immediately to accommodate flows from another imminent storm)<br>**(Less-than-Significant Impact with Mitigation)** |
| I5. Construction Noise. Noise levels would be temporarily elevated during grading and construction. **(Significant Impact)** | I5. Short-term noise impacts shall be reduced through implementation of the following measures: limiting the hours of construction; proper muffling and maintenance of equipment; prohibition of unnecessary idling; noise shielding of stationary equipment and location of such equipment away from sensitive receptors; selection of quiet equipment; notification to neighbors of construction schedule, and designation of a 'noise disturbance coordinator' to respond to noise complaints. (See EIR text for details.) **(Less-than-Significant Impact with Mitigation)** |

| IMPACTS | MITIGATION |
|---|---|
| **J. AIR QUALITY** | |
| J1. Construction Emissions. Construction and grading for the project would generate dust and exhaust emissions that could adversely affect local and regional air quality. **(Significant Impact)** | J1. Dust control measures shall be implemented to reduce $PM_{10}$ emissions during grading and construction, as required by the City of Lodi and the San Joaquin Valley Unified Air Pollution Control District. (See EIR text for details.) **(Less-than-Significant Impact with Mitigation)** |
| J2. Carbon Monoxide Emissions. Traffic generated by the project would increase carbon monoxide emissions at local roadways and intersections; however, the resulting carbon monoxide concentrations would not exceed applicable thresholds. **(Less-than-Significant Impact)** | J2. No mitigation required. |
| J3. Regional Air Quality. Emissions from project-generated traffic would result in air pollutant emissions affecting the entire air basin. **(Significant and Unavoidable Impact)** | J3. Project design measures should be implemented to reduce project area source emissions, and a Transportation Demand Management (TDM) plan should be implemented to reduce project traffic and resulting air emissions; however, these measures would not reduce the impact to a less-than-significant level. **(Significant and Unavoidable Impact)** |
| J4. Diesel Exhaust. The project diesel delivery trucks could result in the emission of Toxic Air Contaminants (TACs). **(Less than Significant)** | J4. No mitigation required. |
| J5. Emissions from Automotive Products. A number of products used in automobile maintenance and repair operations are considered hazardous materials, but none are classified as Toxic Air Contaminants (TACs); therefore, the project will not pose a health and safety threat from TACs. **(Less-than-Significant Impact)** | J5. No mitigation required. |
| J6. Restaurant Odors. The restaurant uses in the project could release cooking exhausts which could result in noticeable odors beyond project boundaries. **(Significant Impact)** | J6. All restaurant uses within the project shall locate kitchen exhaust vents in accordance with accepted engineering practice and shall install exhaust filtration systems or other accepted methods of odor reduction. **(Less-than-Significant Impact with Mitigation)** |

| IMPACTS | MITIGATION |
|---|---|
| **K. HAZARDOUS MATERIALS** | |
| K1. Existing Contaminant Sources. The PCBs in the existing transformers pose a potential health hazard; however, the transformers would be removed from the site, during the normal course of site development. The agricultural wells on the site could act as conduits for groundwater contamination; however, these wells would be properly destroyed prior to site development. **(Less-than-Significant Impact)** | K1. No mitigation required. |
| K2. Hazardous Automotive Products. The petroleum-based products, cleaning solvents, car batteries, and other materials routinely used in conjunction with Wal-Mart's automotive service shop could pose a potential health and safety hazard; however, these materials would be handled and stored in accordance with existing state law requirements to minimize such potential impacts. **(Less-than-Significant Impact)** | K2. No mitigation required. |
| K3. Sale of Household Hazardous Products. Household cleaners, fertilizers, pesticides, oil, automobile products, and other household hazardous materials would be sold by Wal-Mart and other retailers in the project. These products would be safely packaged to prevent harm to employees and consumers, and would be handled, stored, and transported in accordance with applicable federal, state, and local regulations. **(Less-than-Significant Impact)** | K3. No mitigation required. |
| **L. UTILITIES AND SERVICE SYSTEMS** | |
| L1. Domestic Water Supply. The project would result in increased demand for domestic water service; however, existing water resources and infrastructure are adequate to serve the project. **(Less-than-Significant Impact)** | L1. No mitigation required. |
| L2. Wastewater Collection and Treatment. The project would increase the demand for wastewater collection, treatment and disposal facilities serving the site; however, there is sufficient capacity in the City's wastewater collection and treatment system to serve the project without expansion of existing infrastructure. **(Less-than-Significant Impact)** | L2. No mitigation required. |

| IMPACTS | MITIGATION |
|---|---|
| **M. PUBLIC SERVICES** | |
| M1. Fire, Police, and Solid Waste. The project would increase the need for fire and police protection services, as well as the demand for solid waste collection and disposal service; however, these increased demands would not degrade service levels or result in the need for new or altered facilities. **(Less-than-Significant Impact)** | M1. No mitigation required. |

## CUMULATIVE IMPACTS

When combined with other identified approved, pending, and probable future development, the project would contribute to the following cumulatively considerable impacts:

- Conversion of prime agricultural land to urban uses.
- Traffic-generated emissions of regional air pollutants, specifically ozone precursors such as Reactive Organic Gases (ROG) and Nitrogen Oxides ($NO_x$), as well as Particulate Matter ($PM_{10}$).

## SIGNIFICANT UNAVOIDABLE IMPACTS

The following significant impacts resulting from the project cannot be avoided or reduced to less-than-significant levels by feasible mitigation measures. Therefore, they represent significant unavoidable impacts of the project.

- Significant impacts to agricultural resources;
- Significant impacts to regional air quality;
- Significant cumulative impacts to agricultural resources; and
- Significant cumulative impacts to regional air quality.

## ALTERNATIVES TO THE PROPOSED PROJECT

Chapter IV of this EIR presents the following discussions in the evaluation of project alternatives: the factors applied in selecting alternatives for detailed analysis; identification of the alternatives considered for evaluation and discussion of the rationale for including or not including them in the detailed alternatives analysis; description and evaluation of the environmental impacts associated with the selected project alternatives, including discussion of the ability of each alternative to meet the project objectives. The following alternatives were selected for full analysis in the EIR:

- No Project Alternative (no build scenario);

  Reduced Project Size Alternative (i.e., Wal-Mart only on a 24-acre site)

- Alternative Project Location (northeast quadrant of Highway 12 and Thornton Road in San Joaquin County).

Based on the alternatives analysis, it was determined that the Reduced Project Size alternative was the slightly superior alternative although it would not avoid or reduce the significant and unavoidable agricultural and air quality impacts of the proposed project to less-than-significant levels.

## GROWTH-INDUCING IMPACTS

The proposed Lodi Shopping Center would have a less-than-significant growth-inducing effect by way of producing a minor economic stimulus locally. This would occur through direct employment, as well as indirect growth through demand for local goods and services. This could in turn contribute to incremental secondary effects such as increased hiring by suppliers. To the extent that the new employees are drawn from outside the local area, there could be a minor increase in local housing demand. The shopping center project would also generate significant sales tax revenue for the City, enabling expenditures on capital improvement projects that would also stimulate secondary economic activity. During the construction phase, temporary jobs would be created and others supported in the purchase of materials.

As discussed in Section *VI. Growth-Inducing Effects of the Proposed Project*, the project would not result in significant growth inducement by way of setting a precedent for further urban expansion, by creating excess infrastructure capacities, or by removing obstacles to further growth.

## AREAS OF POTENTIAL CONTROVERSY

In response to the Notice of Preparation (NOP), contained in Appendix A, comment letters were received from only the California Department of Transportation (Caltrans) and the San Joaquin Valley Unified Air Pollution Control District (SJVUAPD). These letters, which are also included in Appendix A, primarily outline each agency's recommendations with respect to the EIRs content and methodologies to be employed in the analysis of subjects under their purview. No particular concerns are raised in either letter with respect to environmental issues which could give rise to potential controversy.

## MITIGATION MONITORING AND REPORTING PROGRAM

As required under Section 21081.6 of the Public Resources Code, a Mitigation Monitoring and Reporting Program (MMRP) will be prepared and adopted for the proposed project. The MMRP is intended to ensure that the mitigation measures identified in this EIR are carried out, and will be primarily implemented by the developer and confirmed through inspections and oversight by the responsible City departments. The MMRP will be adopted by the City of Lodi concurrently with the adoption of findings and prior to approval of the proposed project.

# I. PROJECT DESCRIPTION

## A. LOCATION AND SITE DESCRIPTION

### Project Site

The proposed Lodi Shopping Center ("project") consists of a 36.18-acre site located at the southwest corner of West Kettleman Lane (State Route 12) and Lower Sacramento Road in the western portion of the City of Lodi (see Figures 1 through 3). This includes 33.1 acres for the proposed shopping center, and 3.08 acres for dedicated public street right-of-way. In addition, the project will require a temporary stormwater basin of about 3.65 acres, which will be located within an easement area west of the southwest portion of the shopping center site. The proposed shopping center is located entirely within the incorporated limits of the City of Lodi, and the basin site is located outside the City limits in the unincorporated area of San Joaquin County. The combined acreage of the shopping center project and the stormwater basin is 39.83 acres. (For purposes of this EIR, the project site is considered to consist of this combined area of approximately 40 acres.)

The project site was previously in agricultural cultivation for row crops and is currently fallow (albeit disced for weed control) except for the planned stormwater basin site, which is planted in alfalfa. There are no structures on the site with the exception of two agricultural wells and associated concrete standpipes and electrical services. The wells formerly fed an agricultural irrigation ditch which runs across the west-central portion of the site in a north-south direction and along portions of the north and south site boundaries.

The site is largely absent of woody vegetation with the exception of three mature California walnut trees and two almond trees located at intervals along the south site boundary, and two small walnut trees and a young coast live oak along the Lower Sacramento Road site frontage.

### Surrounding Land Use

The project site is located at the western edge of the urbanized area of Lodi, and is surrounded by a mix of urban and rural land uses (see Figures 4 and 5). The lands to the east and northeast are occupied by two commercial retail shopping centers, including the Target/Safeway shopping center located at the northeast corner of Kettleman Lane and Lower Sacramento Road, and the Sunwest Plaza located to the east across Lower Sacramento Road from the project site. To the south of the Sunwest Plaza and across from the southeastern portion of the project site are 10 single-family dwellings in an unincorporated area of the County. Four of these residential properties have frontage on Lower Sacramento Road, with the remaining six homes fronting on Olive Avenue which runs east from Lower Sacramento Road. The lands adjacent to the south of the project site are occupied by vineyards associated with the Van Ruiten-Taylor Winery, with the nearest winery buildings located approximately 300 feet south of the project site. The lands to the west are in cultivation for hay. The property to the north across Kettleman Lane is currently under development for the Vintner's Square retail shopping center. There are two or three rural residences located approximately 600 feet west of the site along the north side of Kettleman Lane. All of the lands to the south and west of the project site currently lie outside the incorporated boundaries of the City of Lodi.

## B. DESCRIPTION OF THE PROPOSED PROJECT

The following description of the proposed project is based on project plans and information provided by the project applicant.

### Project Overview

The proposed project includes the construction of approximately 339,966 square feet of commercial retail uses, representing a variety of retail sales and services, to be contained in 13 buildings of varying sizes on the 40-acre project site (see Figure 6) (see 'A. Location and Site Description' above for a detailed breakdown of the site acreage). The primary user will be Wal-Mart which will occupy approximately 226,868 square feet of floor area, including approximately 70,000 square feet for grocery sales, 19,889 square feet for a garden center (of which 10,656 square feet will be outdoor fenced area), and 6,437 square feet for an auto service shop. The Wal-Mart store will be open 24 hours/7 days per week; however, all truck deliveries will occur between 7:00 AM and 10:00 PM per the City of Lodi Noise Regulations. The Wal-Mart operation will not include the use of outdoor metal storage containers, and will not include a seasonal sales area in the parking lot.

A moderate sized retailer will occupy approximately 35,000 square feet on Pad 12 in the southeast corner of the site. The remaining 11 buildings will range in size from 3,200 square feet to 14,788 square feet, three of which will be occupied by fast food franchises, with another two users consisting of sit-down restaurants, and the remaining six buildings to be occupied by such retail uses as pharmacy/drugstore, financial services/bank, personal services, business/professional services, and other retail uses. The planned floor areas are shown in Figure 6 and may be subject to minor refinements to meet City and tenant requirements.

The project will include a 10-foot high masonry wall along the west side of the Wal-Mart store to provide visual and noise screening for the loading and delivery truck circulation area. An 8-foot high masonry wall will also be constructed along the entire length of the southern project boundary.

The project will connect to existing sanitary sewer and domestic water mains in the vicinity which have sufficient capacity to serve the project (see Section *II. L. Utilities and Service Systems*).

The project is planned to commence construction in early 2005, with completion and opening scheduled for the fall of 2005. The project will be constructed in a single phase.

Since the project is consistent with the current General Plan and zoning designations for the site, the main discretionary City actions requested for the project consist of use permit and tentative parcel map approval. The use permit will also constitute the City's approval for the sale of alcoholic beverages (for off-site consumption) at the Wal-Mart store.

### Access and Circulation

Vehicular access to the project site will be provided from three entrances on Lower Sacramento Road, one entrance on West Kettleman Lane, and two entrances from Westgate Drive, a new City street flanking the west side of the project site (see Figure 6). The portion of Westgate Drive running along the

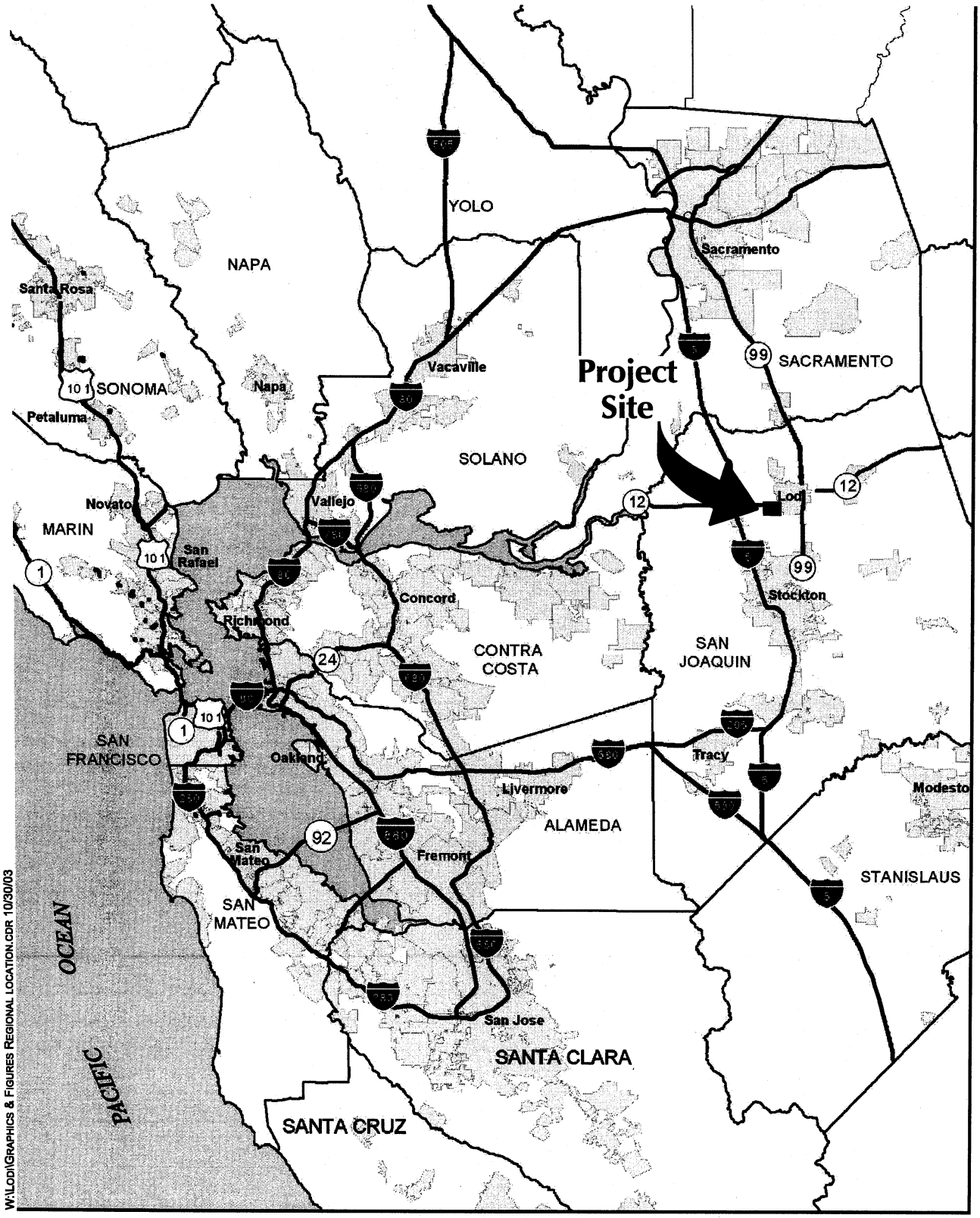


FIGURE 1
REGIONAL LOCATION

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PACIFIC MUNICIPAL CONSULTANTS

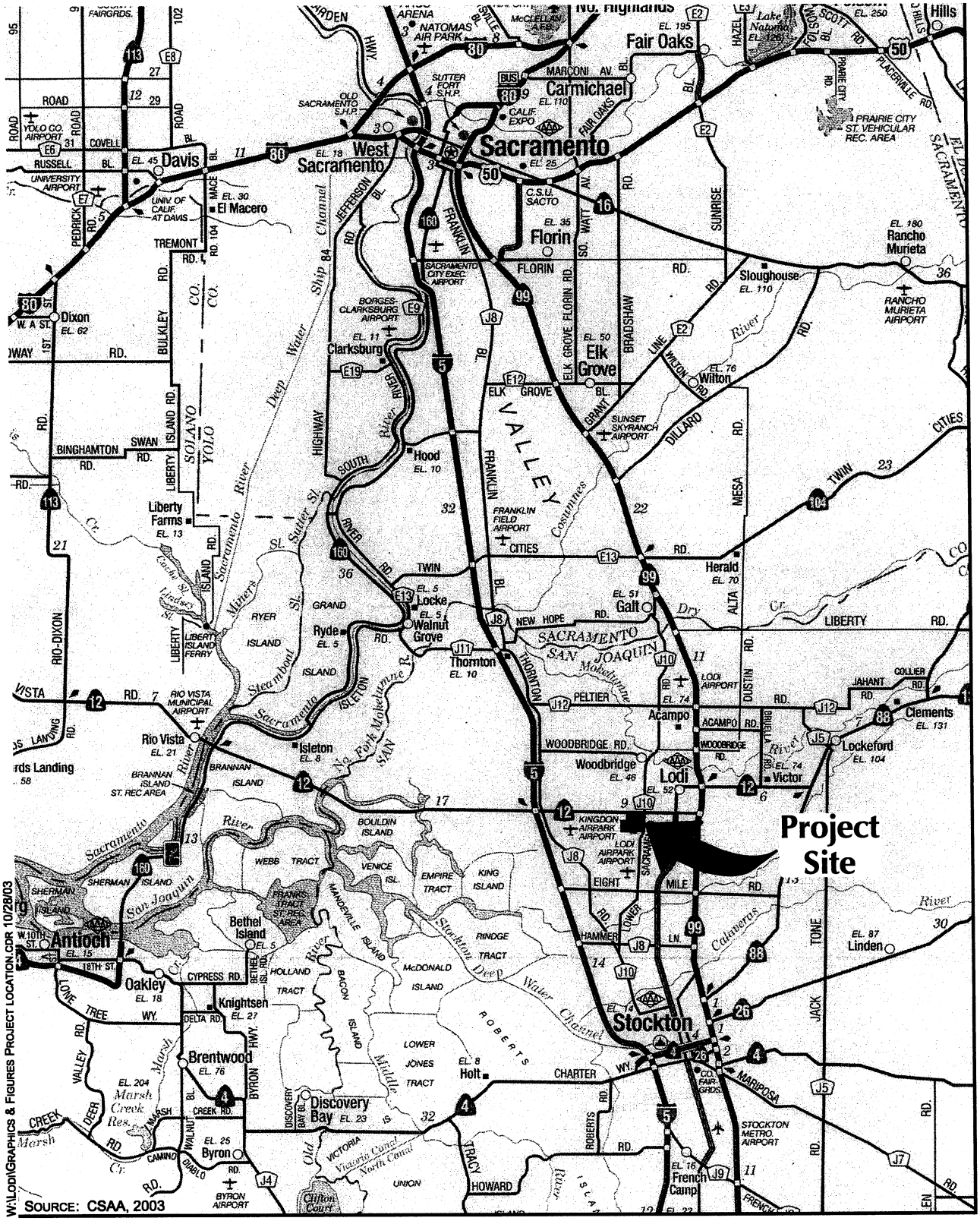
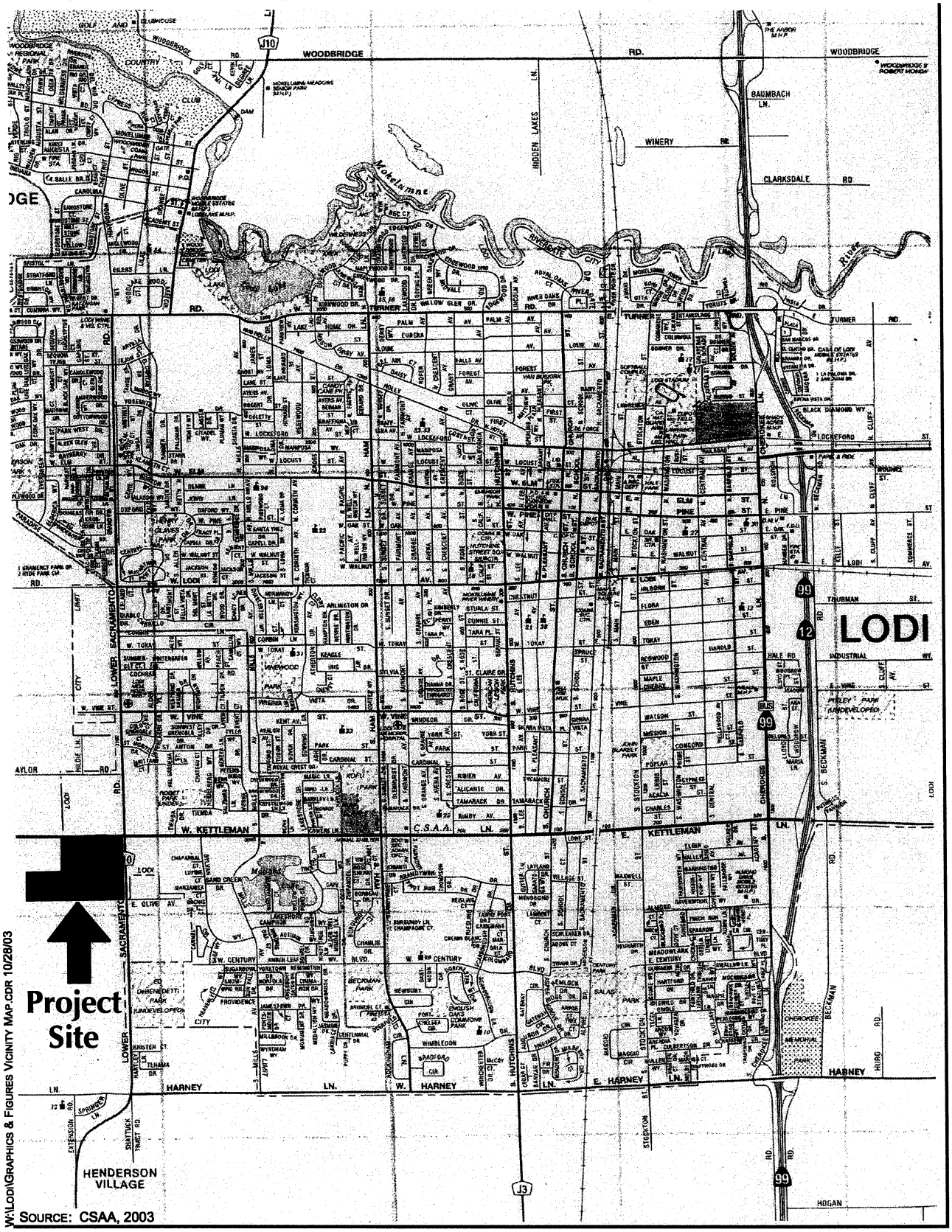



FIGURE 2
PROJECT LOCATION



PMC
PACIFIC MUNICIPAL CONSULTANTS




SOURCE: CSAA, 2003

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SCALE IN MILES

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FIGURE 3
VICINITY MAP

PMC
PACIFIC MUNICIPAL CONSULTANTS

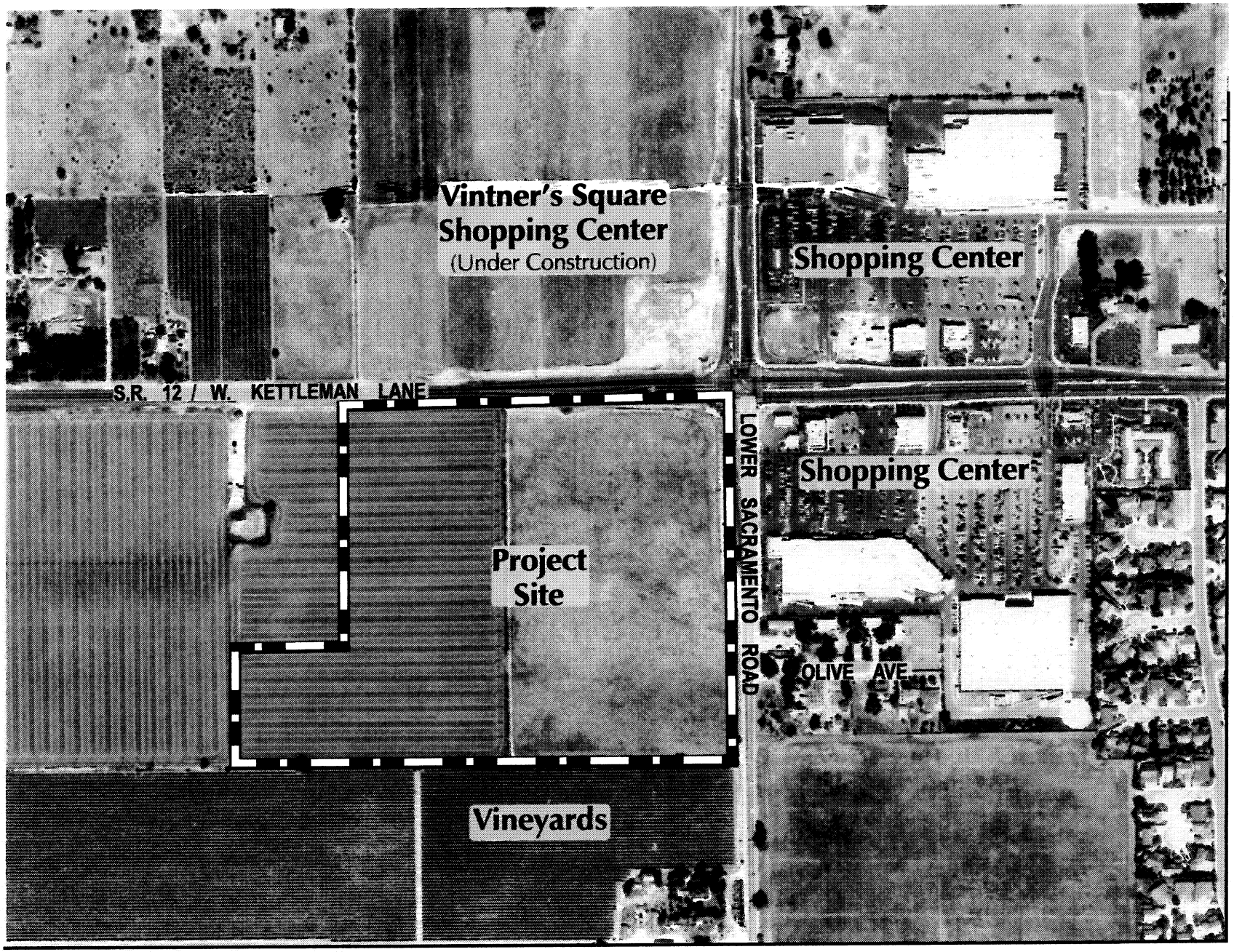


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FIGURE 4
AERIAL PHOTO/LAND USE

PMC
PACIFIC MUNICIPAL CONSULTANTS

1. Southward View from Northeast Corner of Site

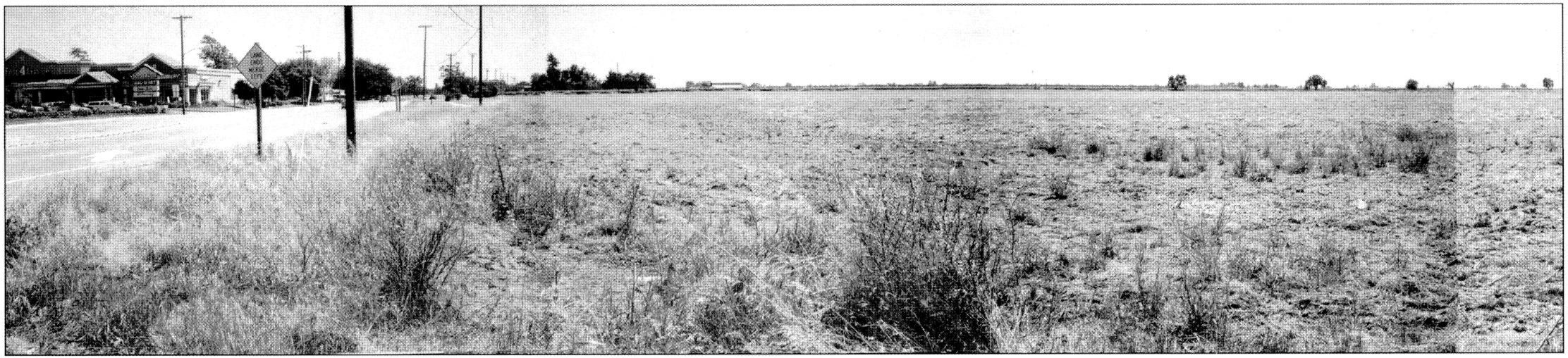
2. Southward View from Southeast Corner of Site

LODI_WALLMART/GRAPHICS AND FIGURES/FIGURE A PHOTOS.CDR 12/8/03

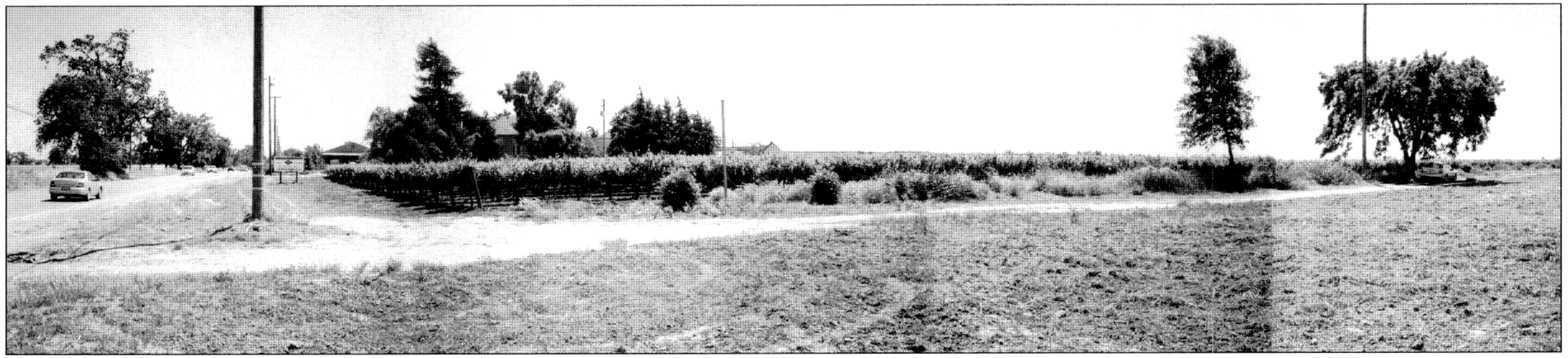
PHOTO DATE: OCTOBER 10, 2003

# FIGURE 5A
## SITE PHOTOGRAPHS

PMC
PACIFIC MUNICIPAL CONSULTANTS



1. Southward View from Northeast Corner of Site



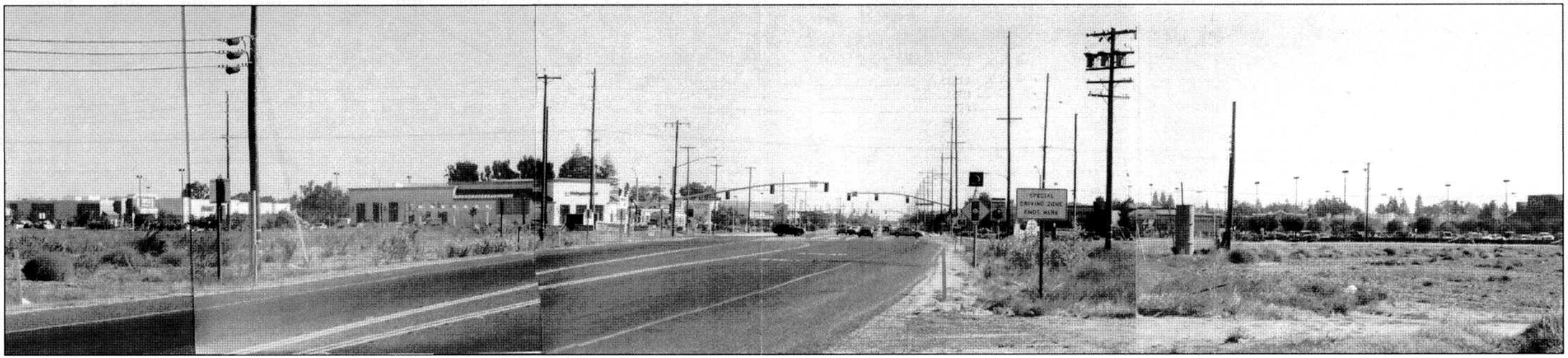
2. Southward View from Southeast Corner of Site

LODI_WALLMART/GRAPHICS AND FIGURES/FIGURE A PHOTOS.CDR 12/8/03

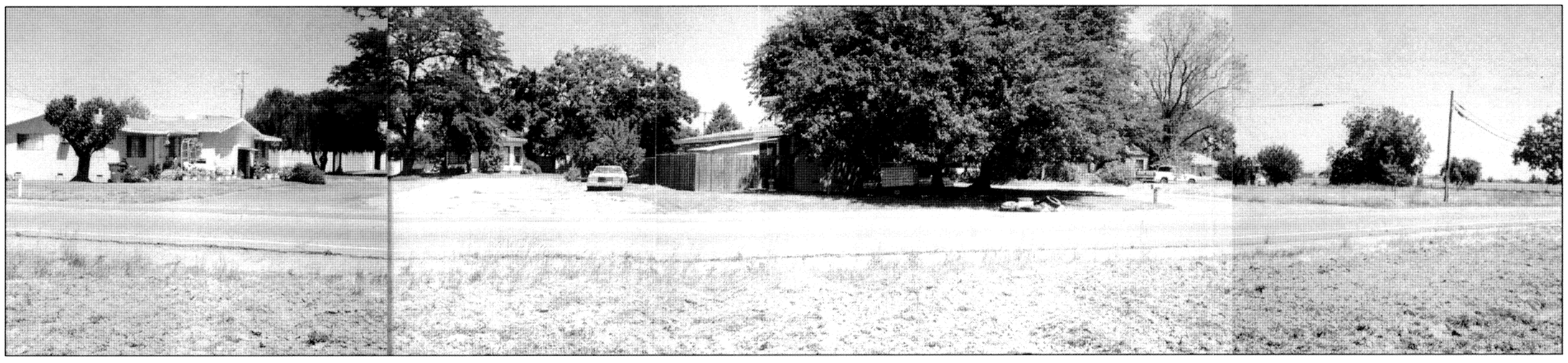
PHOTO DATE: OCTOBER 10, 2003

# FIGURE 5A
## SITE PHOTOGRAPHS

PMC
PACIFIC MUNICIPAL CONSULTANTS




1. Eastward View along State Route 12 / W. Kettleman Lane with Project Site on the Right



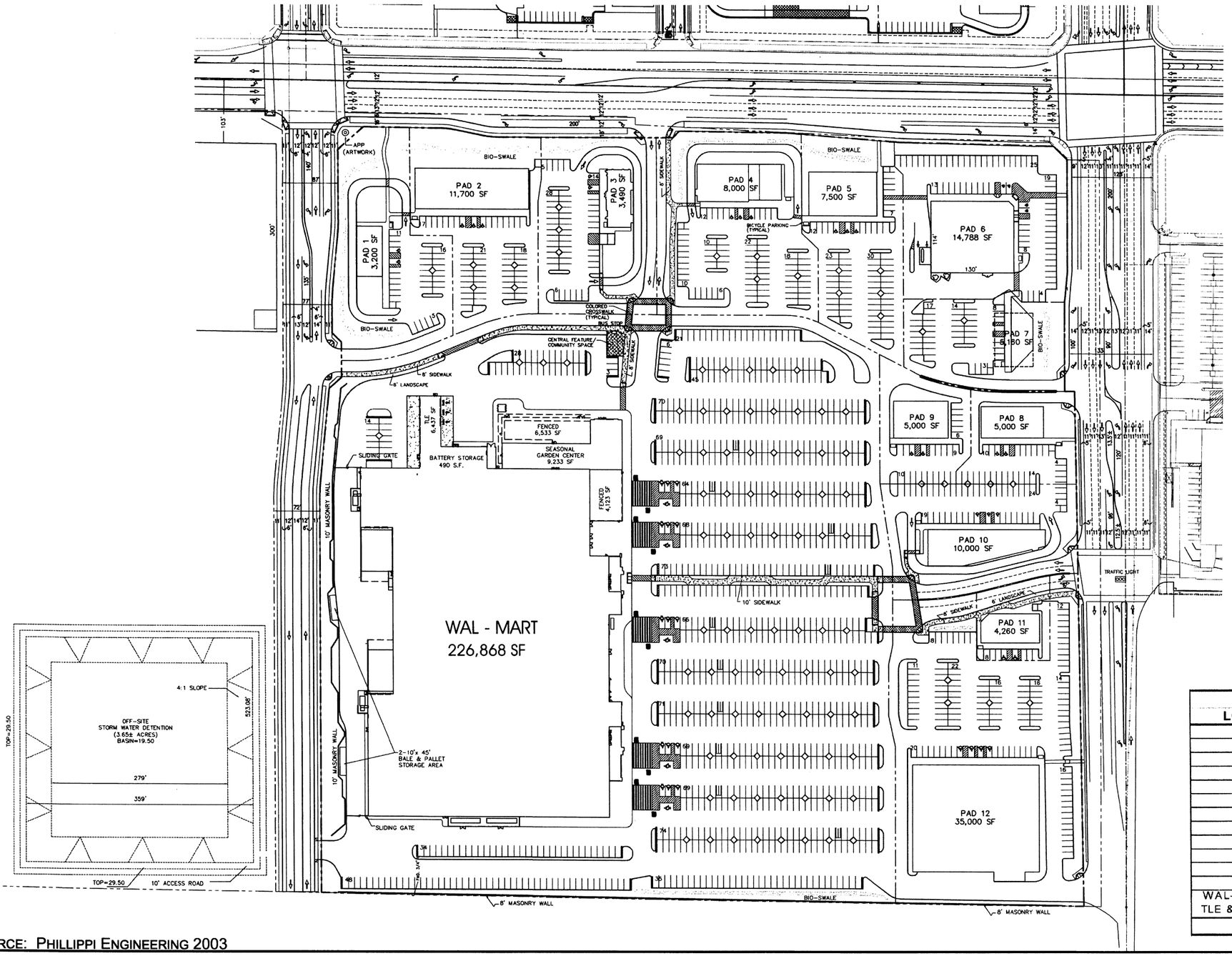
2. Eastward View from Site to Existing Dwellings Across Lower Sacramento Road

LODI_WALLMART/GRAPHICS AND FIGURES/FIGURE B PHOTOS.CDR 12/8/03

PHOTO DATE: OCTOBER 10, 2003

FIGURE 5B
SITE PHOTOGRAPHS

PMC
PACIFIC MUNICIPAL CONSULTANTS




**PARKING SUMMARY**

| LOCATION | TOTAL BLDG SIZE | SPACES PROVIDED | AVERAGE PER 1000 |
|---|---|---|---|
| PAD 1 | 3,200 | 32 | 10.00 |
| PAD 2 | 11,700 | 56 | 4.79 |
| PAD 3 | 3,490 | 53 | 15.19 |
| PAD 4 | 8,000 | 78 | 9.75 |
| PAD 5 | 7,500 | 72 | 9.60 |
| PAD 6 | 14,788 | 69 | 4.67 |
| PAD 7 | 5,160 | 42 | 8.14 |
| PAD 8 | 5,000 | 28 | 5.60 |
| PAD 9 | 5,000 | 25 | 5.00 |
| PAD 10 | 10,000 | 47 | 4.70 |
| PAD 11 | 4,260 | 8 | 1.88 |
| PAD 12 | 35,000 | 135 | 3.86 |
| WAL-MART (includes TLE & Garden Center) | 226,868 | 996 | 4.39 |
| **TOTALS** | **339,966** | **1,641** | **4.83** |

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SOURCE: PHILLIPPI ENGINEERING 2003

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SCALE IN FEET

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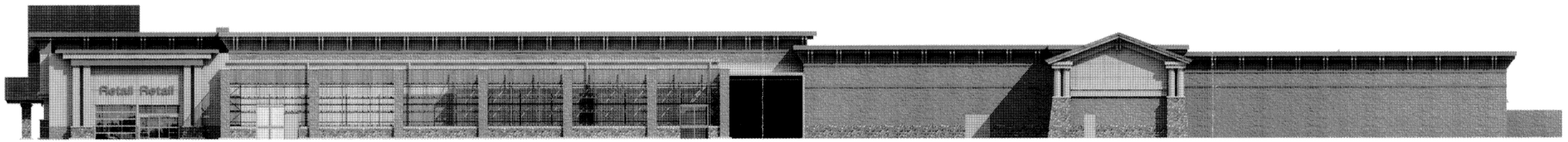
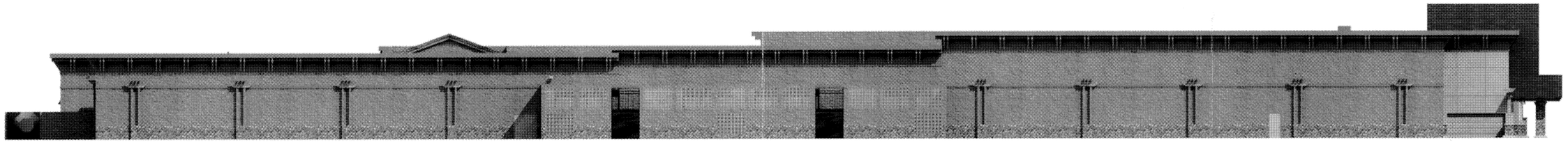
FIGURE 6
SITE PLAN

PMC
PACIFIC MUNICIPAL CONSULTANTS

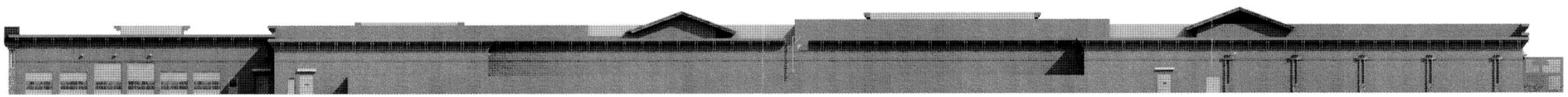

Wal-Mart Front/East Elevation




Wal-Mart Right/North Elevation



Wal-Mart Left/South Elevation



Wal-Mart Rear/West Elevation

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SOURCE: WPIIDC, INC. 2004

NOTE: Size of the individual images are maximized for the layout; therefore, scale may vary between perspectives

FIGURE 7A
BUILDING ELEVATIONS

PMC
PACIFIC MUNICIPAL CONSULTANTS


Wal-Mart Front Perspective - North


Wal-Mart Front Perspective - South

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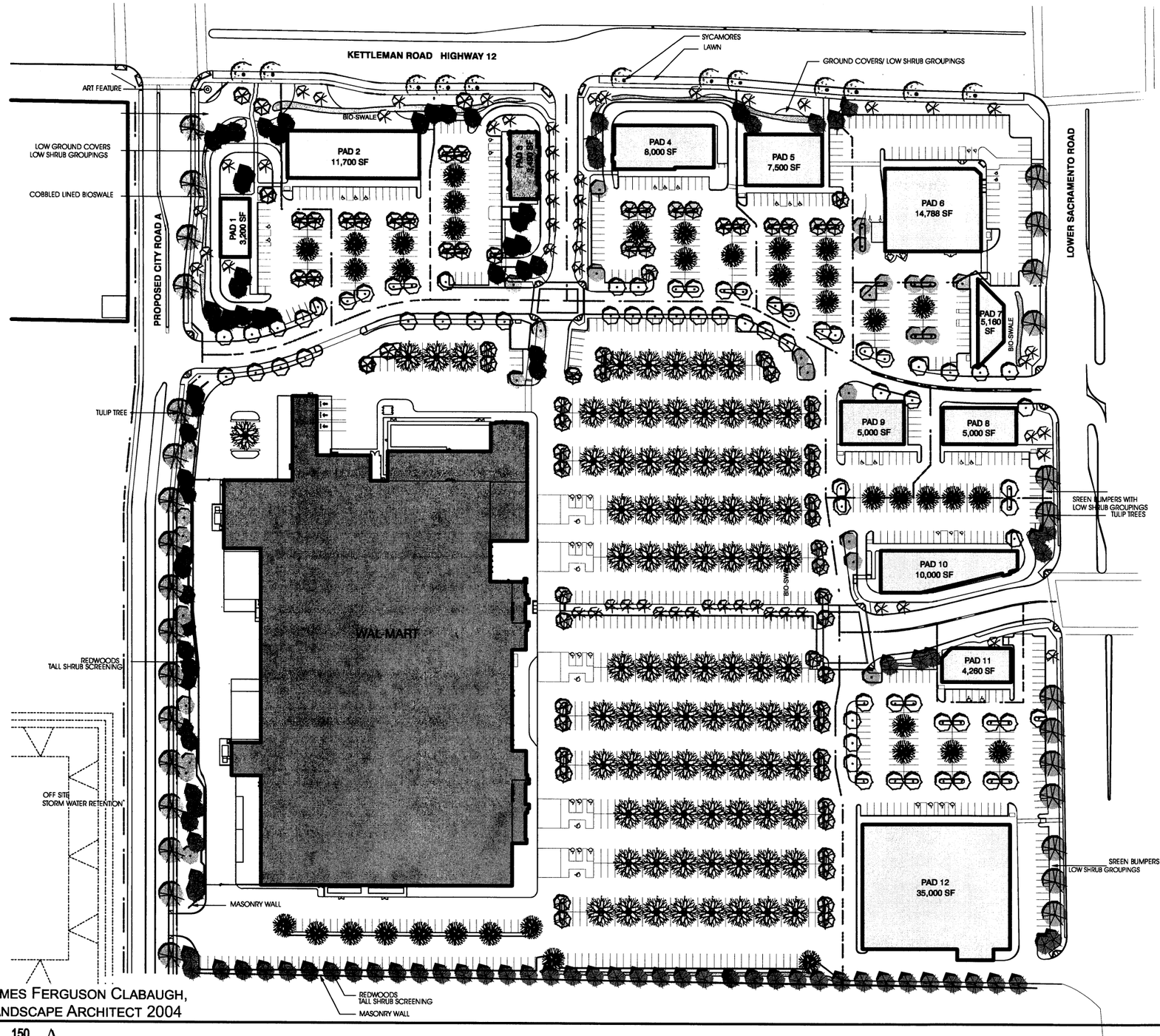
SOURCE: WPIIDC, INC. 2004

NO SCALE

FIGURE 7B
BUILDING ELEVATIONS

PMC
PACIFIC MUNICIPAL CONSULTANTS




SOURCE: JAMES FERGUSON CLABAUGH, LANDSCAPE ARCHITECT 2004

0 75 150

SCALE IN FEET

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## SUGGESTED PLANT LIST

| TREES: | COUNT |
|---|---|
| SEQUOIA SEMPERVIRENS 'SOQUEL' COAST REDWOOD | 104 |
| LIRIODENDRON TULIPIFERA TULIP TREE | 31 |
| PYRUS CALLERYANA 'ARISTOCRAT' FLOWERING PEAR TREE | 69 |
| CELTIS OCCIDENTALIS HACKBERRY | 84 |
| LAGERSTROEMIA 'TUSCARORA' CRAPE MYRTLE | 56 |
| FRAXINUS 'RAYWOOD' RAYWOOD ASH | 38 |
| PLATANUS RACEMOSA 'BLOODGOOD' SYCAMORE | 13 |
| MALUS 'PRAIRIEFIRE' CRABAPPLE | 74 |
| PODOCARPUS GRACILIOR FERN PINE | 28 |
| ALL 15 GALLON SIZE TOTAL COUNT: | 497 |

### SHRUBS AND ACCENTS:

PITTOSPORUM TOBIRA 'VARIGATA' VARIGATED TOBIRA

LIGUSTRUM JAPONICUM 'TEXANUM' JAPANESE PRIVET

RHAPHIOLEPIS 'JACK EVANS' PINK INDIA HAWTHORNE

RHAPHIOLEPIS 'CLARA' WHITE INDIA HAWTHORNE

PLUMBAGO AURICULATA CAPE PLUMBAGO

PRUNUS CAROLINIANA 'COMPACTA' DWARF CAROLINA LAUREL CHERRY

ESCALLONIA 'TERRI' DWARF ESCALLONIA

BUXUS JAPONICA 'GREEN BEAUTY' JAPANESE BOXWOOD

PHOTINIA FRASERI RED PHOTINIA

PHORMIUM TENAX 'RUBRUM' RED FLAX

DIETES BICOLOR YELLOW BUTTERFLY IRIS

PHORMIUM TENAX 'PINK STRIPE' PINK STRIPE FLAX FLAX

AGAPANTHUS AFRICANUS 'WHITE' LILY OF THE NILE

HEMEROCALLIS 'YELLOW EVERGREEN' DAYLILY

### GROUND COVERS:

COPROSMA KIRKII PROSTRATE COPROSMA

TRACHELOSPERMUM JASMINOIDES STAR JASMINE

GAZANIA 'MITSUWA YELLOW' YELLOW GAZANIA

LANTANA 'PURPLE' YELLOW LANTANA

SOD LAWN

ALL PLANTERS SHALL BE PLANTED WITH GROUND COVERS AND / OR SHRUBBERY GROUPINGS.

ALL PLANTERS ARE TO BE MULCHED WITH A 2" LAYER OF BARK MULCH.

THE IRRIGATION SYSTEM SHALL BE AN AUTOMATIC, UNDERGROUND TYPE USING LOW VOLUME, MULTI-OUTLET DRIP BUBBLERS WITH 1/4" TUBING TO EACH INDIVIDUAL PLANT AND POP-UP, LOW VOLUME SPRAY HEADS.

ALL LANDSCAPING SHALL BE IN COMPLIANCE WITH THE CITY OF LODI'S WATER USE LANDSCAPING GUIDELINES.

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# FIGURE 8
## CONCEPTUAL LANDSCAPE PLAN

PMC

PACIFIC MUNICIPAL CONSULTANTS

west project frontage will be constructed to its full design width in conjunction with the project. Primary access from Lower Sacramento Road will be from a new signalized intersection located opposite the Food 4 Less loading entrance, with additional access provided by unsignalized driveways to the north and south. Along Kettleman Lane there will be a right-in, right-out only entrance driveway at about the mid-point of the north project frontage. The new intersection at Kettleman Lane and Westgate Drive at the northwest corner of the project will be fully signalized, and will feed traffic to two vehicular entrances along the western site boundary. Primary internal project circulation will be provided by an east-west running driveway, and two north-south driveways which will provide access to east-west oriented parking aisles in the central portion of the project. The project will include a total of 1,641 parking stalls, as well as bicycle racks at each retail pad.

**Project Design**

As shown in the conceptual building elevations (Figures 7A and 7B), the retail buildings as proposed will be designed using elements of the California Bungalow style, and will emphasize earth tones and exposed timber. Architectural details will include brackets, siding, columns, wall and soffit treatments, and decorative lighting. The Wal-Mart store will include distinguishing design elements such as pitched roof entry features supported by columns of stone veneer, extended eaves and colonnaded roof overhangs, as well as the bracketed roof cornices. Design elements included to provide pedestrian scale include low screen walls, planter boxes, trellis elements, extended canopies, variations in building mass and footprint, and variations in texture and color to reduce the perceived building mass. The other retail buildings are not intended to be identical in style, but will be architecturally compatible and recognizable as part of a common design theme. Maximum building heights will be two stories or 35 feet, per the City's requirements for the C-S zoning district (see Section *II. A. Land Use and Planning*). The project will incorporate the requirements of the City's recently adopted Design Standards for Large Retail Establishments.

**Landscaping**

As shown in the Conceptual Landscape Plan (Figure 8), almost 500 trees are to be planted in the project, including extensive planting along the project perimeter and throughout the project interior. The overall number of trees planted will meet the City requirement of at least one tree for every four parking spaces. Landscaped setback areas will be provided along all exterior site boundaries. Primary tree species will include sycamore and coast redwood along the Kettleman Lane frontage, tulip trees along Lower Sacramento Road, and tulip trees and crepe myrtle along Westgate Drive. Within the main parking areas, trees will be planted at close intervals to provide shade, with primary species to include hackberry and ash. Along the project roadway frontages, a combination of berms and shrubbery is planned to be provided for continuous screening of headlight glare from vehicles parked along the site perimeter or moving through the fast-food drive-thru lanes. The southern site boundary will be planted with closely spaced coast redwoods to provide visual screening. All landscaping will be required to be in compliance with the City of Lodi Water Use Landscaping Guidelines.

**Lighting**

Night lighting for the project is to be sufficiently bright to provide for security and safety purposes, but is intended to avoid direct illumination beyond the shopping center boundaries. This would be accomplished through the use of recessed light fixtures and cut-off shields to direct light downward. Parking lot light

poles would not exceed a height of 25 feet as specified in the City's Design Standards for Large Retail Establishments. Lighting for the rear and sides of the stores would be by wall-mounted light fixtures which also would be shielded to prevent light spill beyond the project boundaries. All exterior project lighting would subject to the approval of the Site Plan and Architectural Review Committee.

**Signage**

Primary signage for the project will consist of two pylon signs, with one located at the main project entrance on Lower Sacramento Road, and the other located near the project entrance on West Kettleman Lane. The pylon signs would be no taller than 35 feet, in conformance with the City zoning ordinance. Other signage will include identification signs on the retail buildings, which will be internally illuminated, as well as wall signs for the Wal-Mart store indicating major functions such as "Food Center," "Optical," "Pharmacy," etc. All project signage will conform to the sign requirements of the City zoning ordinance, and will be subject to the approval of the Site Plan and Architectural Review Committee.

**Grading and Drainage**

Site grading will provide gradients necessary for positive surface drainage throughout the site. In addition, building pads will be raised such that finished floors are least one foot above existing ground elevations (see Section *II. D. Hydrology and Drainage* for further discussion). All earthwork within the shopping center site is planned to be balanced on the site with no import or export of fill material. The soil excavated for the temporary stormwater basin, described below, will be distributed on the adjacent field to the west, and will be reused in the future to backfill the basin once the permanent storm drainage facilities serving the project area are installed to the west.

Site drainage will be directed to catch basins located throughout the project and will be conveyed via underground storm drains to the temporary stormwater basin located to the west of the project site (described below). In the northern and southern portions of the project, drainage will be directed to vegetated swales (bioswales) to provide initial removal of surface water pollutants before entering the project storm drain system. Roof drainage will be conveyed via downspouts directly to underground storm drains.

In order to accommodate increased stormwater runoff generated by the project, a temporary stormwater basin will be constructed on a 3.65-acre easement area located across Westgate Drive from the southwest corner of the project site, just outside the City limits in the unincorporated County of San Joaquin (see Figure 6). The basin will be about 10 feet deep and will have side slopes of 4:1 (horizontal:vertical), per City of Lodi standards. The basin will have a 10-foot wide access road and a 10-foot wide landscaped setback area between the edge of the basin and the perimeter fence enclosing the basin site. After each storm, flows from the basin will be pumped east through an underground pipeline to be installed along the southern project boundary to an existing 21-inch City storm drain in Lower Sacramento Road. The area planned for the stormwater basin is currently in the unincorporated County of San Joaquin. However, this area is planned to be annexed to the City in conjunction with the Southwest Gateway Annexation, currently in process (see Section *III. Cumulative Impacts* for further description of the full annexation area). Since the annexation is anticipated to be complete by the time construction of the stormwater basin would likely commence, the basin will be designed to City standards and will not require any County approvals or permits. The basin will be operated and maintained by the property owners until stormwater collection system can be connected to a future City system and conveyed to the future permanent City stormwater

basin planned to the west of the project site. (See Section *II. D. Hydrology and Water Quality* for further discussion.)

**Roadway Improvements**

The project includes construction of frontage improvements to City of Lodi standards, including roadway widening and construction, curb and gutter, sidewalks, right-of-way landscaping, and street lighting, as well as installation of underground utilities and services. This includes frontage improvements along Kettleman Lane and Lower Sacramento Road adjacent to the project site, as well as construction of Westgate Drive to its full design width along the eastern site boundary and to the curb on the west side of the roadway. The project will also be responsible for installation of full traffic signals at the main project entrance on Lower Sacramento Road, and will contribute its fair share for the construction of new traffic signals at Kettleman Lane and Westgate Drive, which are to be installed in conjunction with the Vintner's Square project to the north, which is currently under construction.

It should be noted that the land area addressed in this EIR includes the future right-of-way areas for roadways along the project frontage including State Route 12/West Kettleman Lane, Lower Sacramento Road, and Westgate Drive. These future right-of-way areas are included in the land-based technical impact assessments related to geology and soils, hydrology and drainage, biological resources, cultural resources, and hazardous materials.

## C. PROJECT OBJECTIVES

State CEQA Guidelines Section 15124(b) indicates that an EIR should include:

> "A statement of objectives sought by the proposed project. A clearly written statement of objectives will help the lead agency develop a reasonable range of alternatives to evaluate in the EIR and will aid the decision makers in preparing findings of a statement of overriding considerations, if necessary. The statement of objectives should include the underlying purpose of the project."

The objectives of the proposed project, as stated by the applicant, are as follows:

- To provide a retail development which meets the current unmet demand of consumers residing within the City of Lodi and demand from planned future residential development in the City;
- To provide a commercial center that serves both the local and regional market area to attract customers and new retailers into the City of Lodi;
- To provide a commercial development that results in a net fiscal benefit to the City of Lodi by providing new sales tax revenue and increasing property tax revenues;
- To provide a commercial center on a large, undeveloped lot in close proximity to an existing highway, and near other commercial centers to minimize travel lengths and utilize existing infrastructure to the extent possible;

- To provide a commercial center consisting of at least 30 net acres to provide sufficient development area to allow a mixture of uses in outlying parcels in addition to a major anchor tenant to create a destination commercial center which will attract various types of customers to the City.

- To provide a commercial development that can be adequately served by public services and utilities;

- To provide large scale retail activities that will compliment existing smaller scale retail activities located throughout the City of Lodi;

- To provide commercial development that creates new jobs for City residents; and

- To complete the development of the "Fours Corners" area by providing a large scale retail center on the last remaining undeveloped site consistent with the goals and policies of the General Plan and zoning regulations.

## D. USES OF THIS EIR

The primary purpose of this EIR is to provide the City of Lodi decision-makers and the general public with a thorough analysis of environmental impacts associated with the proposed Lodi Shopping Center. The EIR will be used for the following discretionary approvals by the City for the project:

Use Permit
Tentative and Final Parcel Maps
Site Plan and Architectural Review
Improvement Plan Approval (includes grading permit)
Building Permits

In addition, the EIR will be used by the following responsible state and regional agencies for their separate permit and review processes:

California Department of Transportation (Caltrans): Approval of improvements within the State right-of-way along State Route 12/West Kettleman Lane, as well as encroachment permits for such improvements.

Central Valley Regional Water Quality Control Board (CVRWQCB): Administration of General Permit for Storm Water Discharges Related to Construction Activities under the National Pollutant Discharge Elimination System (NPDES).

# II. ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION MEASURES

This chapter presents the environmental setting of the project for the various impact topics of concern, evaluates potential impacts associated with the development of the proposed project, and identifies feasible mitigation measures, as available, to avoid the impacts or to reduce their severity to less-than-significant levels.

## A. LAND USE AND PLANNING

### ENVIRONMENTAL SETTING

#### On-Site Land Use

The 40-acre project site was previously in agricultural cultivation for row crops. Most of the site is now fallow (albeit disked for weed control), except for the stormwater basin site which is planted in alfalfa. There are no structures on the site with the exception of two agricultural wells and associated concrete standpipes and electrical services. The wells formerly fed an agricultural irrigation ditch which runs across the west-central portion of the site in a north-south direction and along portions of the north and south site boundaries.

The site is largely absent of woody vegetation with the exception of three mature California walnut trees and two almond trees located at intervals along the south site boundary, and two small walnut trees and a young coast live oak along the Lower Sacramento Road site frontage.

#### Surrounding Land Use

The project site is located at the western edge of the urbanized area of Lodi, and is surrounded by a mix of urban and rural land uses (see Figures 4 and 5). The lands to the east and northeast are occupied by two commercial retail shopping centers, including the Target/Safeway shopping center located at the northeast corner of Kettleman Lane and Lower Sacramento Road, and the Sunwest Plaza located to the east across Lower Sacramento Road from the project site. To the south of the Sunwest Plaza and across from the southeastern portion of the project site is an enclave of 10 single-family dwellings which lie in an unincorporated area of the County. Four of these residences front directly onto Lower Sacramento Road, with the remaining six homes fronting on Olive Avenue which runs east from Lower Sacramento Road. The lands adjacent to the south of the project site are occupied by vineyards associated with the Van Ruiten-Taylor Winery, with the nearest winery buildings located approximately 300 feet south of the project site. The lands to the west are in cultivation for hay. The property to the north across West Kettleman Lane is currently under development for the Vintner's Square retail shopping center. There are two or three rural residences located approximately 600 feet west of the project site along the north side of Kettleman Lane. All of the lands to the south and west of the project site currently lie outside the incorporated boundaries of the City of Lodi.

## REGULATORY SETTING

### General Plan

The current General Plan land use designation in effect on the entire project site is 'NCC Neighborhood/Community Commercial'. This land use designation is defined in the General Plan as follows:

> "This designation provides for neighborhood and locally oriented retail and service uses, multifamily residential units, public and quasi-public uses, and similar and compatible uses. The FAR shall not exceed 0.40 for commercial uses, and residential densities shall be in the range of 7.1 – 20.0 units per gross acre. This designation assumes an average of 2.25 persons per household for residential uses."

The lands immediately to the west and south of the project site are designated 'PR Planned Residential' which provides for a mix of residential development types ranging from single-family to high density, as well as compatible uses such as parks, open space, and public and quasi-public uses.

The following General Plan goal and policies on land use are relevant to the proposed project are listed below.

***Section 3. Land Use and Growth Management Element***

Goal E: To provide adequate land and support for the development of commercial uses providing goods and services to Lodi residents and Lodi's market area.

Policy 1. The City shall promote and assist in the maintenance and expansion of Lodi's commercial sector to meet the needs of both Lodi residents and visitors.

Policy 3. The City shall encourage new large-scale commercial centers to be located along major arterials and at the intersections of major arterials and freeways.

Policy 6. The City shall ensure the availability of adequate sites for new commercial development.

Policy 7. In approving new commercial projects, the City shall seek to ensure that such projects reflect the City's concern for achieving and maintaining high quality development.

***Section 10. Urban Design and Cultural Resources Element***

Policy 1. The City shall develop special design standards to upgrade roadways, including SR 12 and SR 99: Such standards shall include provisions for setbacks, signs, landscaping, parking, and upgrading commercial development along these streets, and screening of visually unattractive commercial and industrial uses.

## Zoning

The entire project site is zoned "C-S Commercial Shopping." As set forth in Section 17.30.020 of the City of Lodi Municipal Code, the stated purpose of the C-S zoning district which is "...to permit the development of commercial shopping facilities in locations outside the central business district. These regulations are established to guide the development of such facilities in adherence to the following principles: protecting nearby residential areas from disturbances and adverse influences, minimizing the effect of these commercial facilities on the safety and traffic capacity of the adjacent streets, promoting the grouping of commercial facilities rather than extending them in a strip development, encouraging the location of these facilities in accordance with the master plan and requiring prompt and orderly development of these commercially zoned areas."

The land uses permitted in the C-S zoning district include a variety of commercial retail, office, and service enterprises undertaken for the purpose of rendering neighborhood service. Permitted uses also include department stores, small theaters, and cocktail lounges operated in conjunction with restaurants. Residential uses of any type are prohibited. Maximum building height permitted in the C-S zone is two stories or 35 feet, and maximum building coverage is 25 percent of net site area.

## Design Standards for Large Retail Establishments

The project is subject to the Design Standards for Large Retail Establishments, which was adopted by City Council on April 7, 2004. The purpose of the Design Standards is to supplement the existing City zoning and design review requirements by providing clear and enforceable standards to mitigate visual impacts associated with large-scale retail development. The issues addressed in the Standards include: site layout, architectural design and detailing; minimum and maximum number of parking spaces; lighting and landscaping of parking areas; screening of loading and outdoor storage areas; and pedestrian and bicycle access and circulation. In addition to visual mitigation, the objective of the Standards is to enhance visual quality of development by promoting architectural features and patterns that provide visual interest at the scale of the pedestrian, that reduce massive aesthetic effects, and that recognize local character. The Standards are initially implemented through staff review of project applications and ultimately through the formal design review process of the City's Site Plan and Architectural Review Committee (SPARC).

### SIGNIFICANCE CRITERIA

For purposes of this EIR, the project would be considered to result in a significant land use and planning impact if it would:

- Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project.
- Result in conflicts with existing land uses or planned developments in the vicinity.
- Result in a secondary socioeconomic impact which could result in building vacancies and ultimately in blight conditions.

## IMPACTS AND MITIGATIONS

**Impact A1.** **Consistency with General Plan and Zoning Ordinance. The proposed retail shopping center is consistent with the governing designations of the City of Lodi General Plan and Zoning Ordinance. (Less-than-Significant Impact)**

### General Plan

The retail commercial enterprises planned for the project include a large general merchandize discount store with grocery sales and an auto service shop, three fast-food restaurants, two sit-down restaurants, a drug store/pharmacy, a financial institution, and other retail uses. It has long been City of Lodi policy and practice that the types of retail uses proposed for the project are interpreted to be permitted under the 'NCC Neighborhood/Community Commercial' General Plan designation applicable to the site. This designation also applies to the existing shopping centers on the east side of Lower Sacramento Road, which many of the same types of retail uses as those proposed for the project.

The Floor Area Ratio (FAR) reflected in the project site plan is 0.23, which is significantly lower than the 0.40 FAR permitted under the 'NCC' land use designation.

The project would meet the General Plan goals and policies which seek to accommodate large-scale commercial developments and to have them located along major arterial roads. The project will be subject to the recently adopted Design Standards for Large Retail Establishments, which will ensure that the project meets the General Plan goal and policies for high quality of development in commercial projects.

Throughout this EIR, the applicable General Plan goals and policies are listed in each of the individual topic sections. With the implementation of mitigation measures identified in this EIR, the proposed project will be consistent with all of the applicable General Plan goals and policies.

### Zoning

The proposed commercial activities in the project are all permitted under the applicable 'C-S Commercial Shopping' zoning district, which also applies to the existing shopping centers on the east side of Lower Sacramento Road and the approved Vintner's Square Shopping Center project on the north side of Kettleman Lane across from the project site. The project buildings will cover approximately 23 percent of the net site area, which meets the 25 percent coverage limit under the C-S zoning. All project buildings will be within the maximum 35-foot height limit of the C-S zone. The intent of the C-S zoning district to provide for orderly commercial development will be met through application of the Design Standards for Large Retail Establishments to project site planning and design, the implementation of which will be assured through the City's Site Plan and Architectural Review process.

In summary, the proposed project will be consistent with all General Plan and zoning provisions applicable to the site.

**Mitigation.** **No mitigation required.**

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**Impact A2.** **Land Use Compatibility. The project would constitute a substantial change in land use on the site; however, it would not result in significant conflicts or incompatibility with adjacent or nearby land uses. (Less-than-Significant Impact)**

The proposed project would alter the use of the site from agricultural open space to a retail shopping center, which represents a substantial change. However, as discussed below, this change would not result in significant land use conflicts or incompatibility with adjacent land uses.

The project site is surrounded on two sides by existing or developing shopping center uses, and would be compatible with those uses. Development of the project site could be considered a logical extension of contiguous urban development on the urban fringe, as provided for in the General Plan. In addition, the project would include landscaped setback areas as well as landscaping throughout the development which, combined with a consistently high quality of building design throughout the project (as ensured through implementation of the City's Design Standards for Large Retail Establishments), is intended to provide an aesthetically attractive entry statement at this western gateway to the City.

Analysis of land use compatibility is largely a function of other environmental factors such as aesthetics, noise from project operations and traffic, and other potential nuisances, as discussed below.

Potential effects from night lighting of parking lots and buildings could produce unwanted light and glare, particularly at the existing residences across Lower Sacramento Road to the east. Potential lighting and glare impacts would be reduced by using cut-off shields to prevent direct illumination beyond project boundaries. Combined with the screening effects of extensive landscaping along the site boundaries and throughout the project, the project would not result in adverse light and glare impacts. (See Section *II. G. Aesthetics* for further discussion.)

As discussed in Section *II. I. Noise*, the development of the project site would not result in significant noise impacts to the adjacent and surrounding land uses. Noise sources associated with the project would include parking lot activity, delivery truck circulation and loading activity, mechanical equipment, trash compactors, and parking lot cleaning. At the nearest noise-sensitive land uses, the residences across Lower Sacramento Road to the east, these noise sources would be generally inaudible over the ambient traffic noise on the intervening roadway. Similarly, the traffic generated by project would not result in significant increases in noise levels on surrounding roadways.

Since the project site is adjacent to ongoing agricultural operations to the west and south, there is a potential for conflicts with agricultural uses. This potential is somewhat reduced because the commercial uses of the project would be less sensitive to agricultural dust generation, noise, odors, or other effects than residential development would be. However, plowing activities would generate dust which could be carried to the site, although the potential for dust generation would occur only occasionally when fields are plowed or exposed under high wind conditions. This effect would be somewhat reduced by the fact that the lands adjacent to the southwest portion of the site will be occupied by the stormwater basin for the project, and the lands adjacent to the northwest portion of the site are planned as the site of a new electric power substation and municipal water storage tank. These facilities will essentially provide a buffer zone approximately 400 to 600 feet wide along much of the western project boundary. In addition, Westgate Drive will run along the western site boundary and provide a minimum 72-foot buffer west of the central portion of the project. The project itself will include a 10-foot high masonry screening wall along southerly two-thirds of the western site boundary, which will provide additional screening from any windblown dust.

Although the project will be directly adjacent to cultivated vineyards to the south, potential conflicts will be reduced by the 8-foot high masonry wall planned for the entire length of the southern project boundary. Given the prevailing wind direction from the northwest, the potential for dustfall will be reduced since the project is located north of the vineyards. In addition, the lands to the south and west are designated for residential development in the City's General Plan, so any urban-agricultural conflicts would be limited in duration until those lands are developed. (As discussed in Section *III. Cumulative Impacts*, the adjacent lands to the west and south are the subject of a proposal for annexation that was filed with the City of Lodi in early 2004.) In light of the above factors and considerations, the potential impacts due to agricultural-urban conflicts associated with the project would be less-than-significant. (See Section *II. B. Agricultural Resources* for further discussion.)

**Mitigation.** **No mitigation required.**

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**Impact A3.** **Potential for Blight Due to Socioeconomic Impacts. The project would include new retailers who would compete with existing retailers in the City of Lodi; however, there is no evidence to suggest that this increased competition would result in any business closures and consequently would not indirectly result in substantial physical deterioration of properties, or blight. (Less-than-Significant Impact)**

Background Discussion

Under CEQA, only direct and indirect physical effects of projects are to be considered. Section 15064(d) of the state CEQA Guidelines provides: 'In evaluating the significance of the environmental effect of a project, the lead agency shall consider direct physical changes in the environment which is caused by and immediately related to the project." Section 15064(d)(3) further states: "An indirect physical impact is to be considered only if that change is a reasonably foreseeable impact which may be caused by the project. A change

which is speculative or unlikely to occur is not reasonably foreseeable." In addition, CEQA requires that a determination that a project may have a significant environmental effect must be based on substantial evidence (CEQA Guidelines §15064(f).

With respect to secondary socioeconomic effects of projects, Section 15131(a) of the CEQA Guidelines states: "Economic and social effects of a project shall not be treated as significant effects on the environment. An EIR may trace a chain of cause and effect from a proposed decision on a project through anticipated economic or social changes resulting from the project to physical changes caused in turn by the economic or social changes. The intermediate economic or social changes need not be analyzed in any detail greater than necessary to trace the chain of cause and effect. The focus of the analysis shall be on the physical changes." In other words, economic and social changes are not, in themselves, considered under CEQA to be significant effects on the environment.

Since only physical effects are to be considered under CEQA, economic and social changes resulting from a project may be considered if they in turn produce changes in the physical environment. In this context, the specific physical effect that would be expected to occur as a result of a negative socioeconomic effect would be a physical deterioration of the built environment, or "blight." "Blight" has a generally accepted meaning in California law. Under California Health and Safety Code Sections 33030 through 33032, a "blighted area" is characterized by certain conditions "causing a reduction of, or lack of, proper utilization of an area to such an extent that it constitutes a serious physical, social, or economic burden on the community which cannot reasonably be expected to be reversed or alleviated by private enterprise acting alone." Among the conditions described for blight are buildings and structures "which are unfit or unsafe to occupy...and are conducive to ill health, transmission of disease, infant mortality, juvenile delinquency and crime" because of certain enumerated factors.

In light of the above, even if it could be shown that the project would likely result in the failure of an existing competing business or businesses, the resulting building vacancy alone would not meet the above definition of blight. As such, a building vacancy alone would not meet the CEQA threshold of significance for a physical change to the environment. To cause a significant physical impact, other contributing factors would need to occur such as the failure of surrounding businesses, combined with little or no effort on the part of property owners to maintain or improve their properties to a condition suitable for leasing. To reach a condition recognized as a physical impact under CEQA would require total neglect or abandonment of these properties by their owners for an extended period such that substantial physical deterioration or blight would ensue. As stated above, such an indirect physical impact must be a reasonably foreseeable result of the project, requiring a showing of cause and effect, with the finding of such an impact supported by substantial evidence.

Although CEQA does not require analysis of economic impacts of the project, the following socioeconomic analysis is presented as supporting evidence for subsequent conclusions on whether the project would result in potentially significant adverse physical changes due to economic effects on businesses in Lodi.

Socioeconomic Analysis

In order to determine the potential economic impact of the proposed project occupants upon existing competing businesses in Lodi, two socioeconomic studies where undertaken by Applied Development Economics (ADE). The first study was focused on the potential project impacts upon Lodi's downtown businesses, and the second study considered the impacts to competing businesses City-wide. Both studies are contained in Appendix B of this EIR, and briefly summarized below.

In the analysis of the project's economic impacts on downtown business, ADE found that the overall effect on downtown businesses would be a one percent loss of annual sales to the Lodi Shopping Center. The study found that the effect would be confined to a few retail categories and that most retailers would not be affected, primarily because most downtown businesses have already adjusted to competition from national discount retailers by finding and occupying a niche, establishing quality customer relations, and maintaining customer loyalty. It was found that the only categories which would lose business as a result of the project include pharmacies, sit-down restaurants, and fast-food restaurants. Downtown pharmacies would lose approximately 2 percent of their sales to the project. Existing sit-down restaurants in downtown would lose 4 percent of their business, and fast-food restaurants in the downtown area would experience a 2 percent drop in sales as a result of competition from similar outlets at the project. These percentages of lost sales are relatively low and would not be expected to result in any business closures.

In the second economic study, ADE studied the effects of the project's likely occupants upon established businesses in the same retail categories City-wide. The categories that were studied included discount stores (e.g., K-Mart, Target), groceries/supermarkets (e.g., Safeway, Raley's, Albertson's, Food 4 Less, etc.), pharmacies/drugstores, other retailers (e.g., apparel, specialty retail, home furnishings, building materials), fast-food restaurants, sit-down restaurants, and non-retail uses such as personal services, business and professional services, and financial institutions.

In the aggregate, the study found that the project's retailers would take away approximately 8.5 percent of total sales from Lodi's established stores in the near term, which would represent approximately 55 percent of the new sales at the project. (The remaining 45 percent of new sales at the project would represent current spending leakages to non-Lodi businesses which would be captured by the project.) The percentage of sales lost would vary by retail category as follows: discount stores – 6 percent; grocery stores/supermarkets – 11 percent; pharmacies/drugstores – 12 percent; other retail – 5 percent; fast-food restaurants – 9 percent; sit-down restaurants – 20 percent; personal services, business and professional services, and financial institutions – 0 percent. Given the relatively low percentage of lost business for the affected retail categories, ADE concluded that the project is unlikely to result in the closure of established businesses in Lodi. With respect to the eight existing supermarkets in Lodi, it was further concluded by ADE that the lost sales would be temporary, and that future population and housing growth in Lodi should allow these established supermarkets to regain their lost sales.

Given the conclusions of the socioeconomic reports that no business closures are likely to occur as a result of the project, there is no evidence to suggest that building vacancies would occur or that a chain of causation would ensue that would result in substantial physical deterioration of properties, or blight. Therefore, the project would not result in a socioeconomic impact which would indirectly result in a significant physical or land use impact.

Closure of Existing Wal-Mart Store

When the Wal-Mart Superstore at the proposed project is completed, the existing Wal-Mart store in the adjacent Sunwest Plaza will be closed. This will result in a building vacancy of about 120,000 square feet. The project applicant, who is also the owner of the Sunwest Plaza, will assume ownership of the vacant Wal-Mart space. Given that the other tenants of the plaza could be adversely affected by a prolonged vacancy, the applicant has a strong financial incentive to re-tenant the space. To that end, the applicant has an economic interest in maintaining the vacant space in good condition in order to attract a new occupant or occupants. According to ADE, it is reasonable to assume that the applicant will succeed in attracting national brand name store tenant(s) based on his experience and proven track record. In this regard, the applicant has indicated to the City that there is strong interest in the property by several prospective tenants, and it is expected that a Letter of Intent will be signed imminently. In consideration of the above, it is unlikely that the closure of the existing Wal-Mart store would result in a prolonged vacancy of that retail space, or that the owner would neglect or abandon the property to the extent that substantial physical deterioration or blight would occur. Therefore, there is no evidence to suggest that the closure of the existing Wal-Mart resulting from the project would cause a socioeconomic impact which would indirectly result in a significant physical or land use impact.

In summary, neither the loss of sales to established business resulting from the project, nor the closure of the existing Wal-Mart store as a result of the project, would cause socioeconomic effects which would in turn result in a significant indirect physical impact.

**Mitigation.** **No mitigation required.**

## B. AGRICULTURAL RESOURCES

### ENVIRONMENTAL SETTING

The project site consists of agricultural land which was previously in cultivation for hay and oats, with crops grown on the site in the past including corn, grain, and miscellaneous truck crops. These crops were irrigated with water pumped from on-site agricultural wells. Under current conditions, most of the site is fallow and is disked annually to discourage weed growth. The portion of the site west of future Westwood Drive, consisting of the 4-acre stormwater basin site, is currently in cultivation for alfalfa.

### Prime Agricultural Land

Under Government Code Section 51201(c), 'prime agricultural land' is defined as any one or more of the following:

1) All land which qualifies for rating as class I or II in the Soil Conservation Service (now Natural Resources Conservation Service) land capability classifications.
2) Land which qualifies for rating 80 through 100 in the Storie Index Rating.
3) Land which supports livestock used for the production of food and fiber and which has an annual capacity equivalent to at least one animal unit per acre as defined by the USDA.
4) Land planted with fruit- or nut-bearing trees, vines, bushes or crops which have a nonbearing period of less than 5 years and which will normally return during the commercial bearing period on an annual basis from the production of unprocessed agricultural plant production of not less than $200 per acre.
5) Land which has returned from the production of unprocessed plant products an annual gross value of not less than $200 per acre for 3 of the previous 5 years.

The applicability of each of these five criteria to the project site is discussed below.

1) NRCS Land Capability

Under the soils classification system of the Natural Resources Conservation Service (NRCS), soils are classified according to eight broad 'Land Capability' classes, with Class I and II soils being the most fertile and well suited for cultivation. The NRCS soil survey for San Joaquin County indicates that the soils covering most of the project site consist of Acampo sandy loam with some areas of Tokay fine sandy loam found in the north-central portion of the site. The Acampo sandy loam has a land capability classification of Class II as irrigated land and Class IV as non-irrigated land. Tokay fine sandy loam has a land capability classification of Class I as irrigated land and Class IV as non-irrigated land. Since all of the subject lands were irrigated while under cultivation, both soil types would be defined as prime farmland under this criterion.

2) Storie Index Ratings

A second land capability system applied by NRCS, called the Storie Index, is specific to California. Soils with a Storie Index rating of 80 or greater are classified as Grade 1 or prime soils. According to the NRCS, the Acampo sandy loam has a Storie Index rating of 57 (or Grade 3), and the Tokay fine sandy loam has a rating of 95 (or Grade 1). As such, the majority of the site is classified as Grade 3 or non-prime soils under the Storie Index. Therefore, most of project site would be considered non-prime farmland under this criterion.

3) Livestock carrying capacity
This criterion does not apply since the project site was not used for raising of livestock.

4) Fruit or Nut Crop Value
This criterion does not apply since fruit or nut cultivation has not occurred on the project site in the recent past.

5) Value of Unprocessed Agricultural Products
During the final years that the site was cultivated, the annual gross income from hay and oat production on the site was approximately $200 per acre. This meets the applicable $200 per acre threshold value. However, under this criterion, this yield value must have been obtained for at least three of the past five years. Since the project site has not been in agricultural production for several years, this criterion would not be met.

In summary, lands within the project site would meet one of the three criteria applicable to the site (e.g., NRCS Land Capability), which would define them as prime agricultural land under the Government Code. Although the majority of the on-site soils would not meet the Storie Index criterion, only one criterion is required to be met to meet the definition of prime agricultural land.

**Important Farmlands Mapping**

All of the lands within the project site are designated as prime farmlands on the map of *San Joaquin County Important Farmlands* prepared by the California Department of Conservation in 2002.

**Williamson Act**

The California Land Conservation Act of 1965, commonly referred to as the Williamson Act, enables local governments to enter into contracts with private landowners for the purpose of restricting specific parcels of land to agricultural or related open space use. In return, landowners receive property tax assessments which are much lower than normal because they are based upon farming and open space uses as opposed to full market value. The project site includes no lands which are subject to a Williamson Act contract.

## REGULATORY SETTING

### General Plan

The following City of Lodi General Plan goals and policies on agricultural resources are relevant to the project:

***Section 3. Land Use and Growth Management Element***

Goal B: To preserve agricultural land surrounding Lodi and discourage premature development of agricultural land with nonagricultural uses, while providing for urban needs.

Policy 1. The City shall encourage the preservation of agricultural land surrounding the City.

Policy 2. The City should designate a continuous open space greenbelt around the urbanized area of Lodi to maintain and enhance the agricultural economy.

Policy 3. The City shall cooperate with San Joaquin County and the San Joaquin County Local Agency Formation Commission (LAFCO) to ensure that the greenbelt is maintained.

Policy 4. The City shall support the continuation of agricultural uses on lands designated for urban uses until urban development is imminent.

Policy 5. The City shall promote land use decisions within the designated urbanized area that allow and encourage the continuation of viable agricultural activity around the City.

Policy 6. The City shall encourage San Joaquin County to retain agricultural uses on lands adjacent to the City.

***Section 7. Conservation Element***

Goal C: To promote the economic viability of agriculture in and surrounding Lodi and to discourage the premature conversion of agricultural lands with nonagricultural uses, while providing for urban needs.

Policy 1. The City shall ensure, in approving urban development near existing agricultural lands, that such development will not constrain agricultural practices or adversely affect the economic viability of adjacent agricultural practices.

Policy 2. The City shall require new development to establish buffers between urban development and productive agricultural uses consistent with the recommendations of the San Joaquin County Department of Agriculture.

## SIGNIFICANCE CRITERIA

For purposes of this EIR, the project would be considered to have a significant impact upon agricultural resources if it would:

- Convert prime agricultural land, as defined in state law, to non-agricultural use.
- Result in interface conflicts between urban and agricultural land uses such that the viability of existing agricultural operations may be impaired.

## IMPACTS AND MITIGATION

**Impact B1. Agricultural Land Conversion. The project would convert approximately 40 acres of prime agricultural land to urban uses. As stated in the City's General Plan, no mitigation is available which would reduce this impact to a less-than-significant level**

**except an outright prohibition of all development on prime agricultural lands. (Significant and Unavoidable Impact)**

As discussed under 'Environmental Setting' above, the entire project site meets the Government Code definition of prime agricultural land. The conversion of this prime agricultural land to urban uses, as proposed in the project, represents a significant environmental impact.

The EIR on the City's General Plan found that the implementation of the General Plan would result in the loss of 1,550 acres of prime farmland, which included the 40 acres on the project site. This was identified as a significant and unavoidable impact of the General Plan.

**Mitigation B1. There are no feasible mitigation measures available to reduce the impact of agricultural land conversion a less-than-significant level.**

The impact of the urban development on prime agricultural land is an unavoidable impact. Development of buildings, paved surfaces, and landscaping necessarily removes the land from agricultural production, and the affected land cannot be recreated or reproduced elsewhere. The land, once converted, loses its character as agricultural land and is removed from the stock of agricultural land.

The project's significant and unavoidable impacts to agricultural resources could be avoided by denying the project or requiring a reduced project, which would prevent the conversion of all or a portion of the site to urban uses. However, this action would not meet the objective of the applicant or the City of Lodi of developing the site for a commercial retail shopping plaza in conformance with the General Plan and zoning designations applicable to the site. In addition, denial of the project would not constitute a "feasible mitigation," and therefore would not be required under Section 15126.4 of the state CEQA Guidelines.

The City of Lodi General Plan contains no policies or implementation programs which require mitigation or offsets for the conversion of prime farmland. Likewise, the EIR prepared on the General Plan identified no measures to be implemented to offset the conversion of prime farmland.

Although the conversion of prime agricultural land to urban uses cannot be mitigated or lessened, there are a number of measures available for the overall protection of existing agricultural land, some of which are implemented by the City of Lodi as a matter of policy. These measures are discussed below for informational purposes only, given that none of these measures would mitigate or lessen the project's significant unmitigable impact upon agricultural resources.

**Program-level Agricultural Protection through the City's General Plan**

Although project-specific impacts to prime farmland cannot be feasibly mitigated to less-than-significant levels, the City has in fact minimized and substantially lessened the significant effects of development on prime agricultural land through the policies of its

adopted General Plan. A principal purpose of the City's General Plan regulatory scheme is to minimize the impact on prime agricultural land resulting from the City's urban expansion. The City of Lodi is recognized for its compact growth pattern and clearly defined urban boundaries, its emphasis on infill development, and its deliberate and considered approach to urban expansion to accommodate housing and other long-term development needs. These guiding principles serve to minimize and forestall conversion of agricultural lands within the City's growth boundaries.

Growth Management Policies

The General Plan policies related to agricultural preservation and protection are intended, and have been successful, in maintaining the productivity of prime agricultural land surrounding the City by controlling urban expansion in a manner which has the least impact on prime agricultural lands. In addition to maintaining compact and defined urban growth boundaries, this is primarily accomplished through the City's Growth Management Plan for Residential Development, which limits housing development to a growth rate of two percent per year, and which gives priority to proposed residential developments with the least impact on agricultural land, in accordance with General Plan policy.

Establishment of an Agricultural Buffer Zone/Greenbelt

The General Plan implementation program includes a directive to "identify and designate an agricultural and open space greenbelt around the urbanized area of the City" (Land Use and Growth Management Implementation Program 10). This buffer zone is intended to provide a well-defined edge to the urban area, and to minimize conflicts at the urban-agricultural interface by providing a transition zone separating urban from agricultural uses, and to remove uncertainty for agricultural operations near the urban fringe. The implementation of the greenbelt will involve the dedication of setback zones of varying widths between the edge of development and adjacent agricultural land. The City of Lodi has initiated the creation of the greenbelt through the Westside Facilities Master Plan, which encompasses the largely undeveloped lands adjacent to the northwest portion of the City and extends westward approximately one-half mile west of Lower Sacramento Road. The designated greenbelt is located along the western edge of the Master Plan area and varies in width from 200 feet to approximately 350 feet. The greenbelt will perform an important function in minimizing urban-agricultural conflicts and promote the preservation of prime agricultural land west of the greenbelt; however, it will not constitute mitigation for loss of farmland since it cannot itself be farmed. In addition, the City is continuing to study the implementation of a greenbelt area between Stockton and Lodi, and is committed to the implementation of such a greenbelt.

**Project-specific Agricultural Protection Measures**

While the significant agricultural impacts of the project cannot be feasibly reduced to less-than-significant levels, Section 15126(c) of the CEQA Guidelines requires that an EIR include a discussion of measures which could "minimize" significant adverse impacts. There are several project-specific measures available that address the protection of prime agricultural land. Since none of these measures can create new

prime farmland, they cannot avoid or reduce the impact of farmland conversion to a less-than-significant level. Therefore, implementation of any or all of the following measures would not avoid the significant unavoidable impact to agricultural resources resulting from the development of the proposed project.

Agricultural Conservation Easements

The objective of programs to acquire agricultural land or agricultural conservation easements is to offset or "compensate" for the loss of prime agricultural land to urban development by preserving or providing long-term protection to an equivalent amount of prime agricultural land on another property. This is accomplished by extinguishing the development rights on the equivalent property, through the acquisition and recordation of an agricultural conservation easement which restricts the equivalent property to agricultural use in the future, or by outright purchase of fee title to the equivalent land with the imposition of similar restrictions. Acquisition of a conservation easement (or fee title) involves payment of an agreed-upon price to the owner of the equivalent land.

While agricultural easements are sometimes accepted as mitigation for the conversion of prime agricultural lands, they do not constitute true mitigation since they do not create replacement acreage of prime farmland. In some sense, the acquisition of such "mitigation lands" may be confused with the acquisition of replacement habitat for loss of wildlife habitat. However, such habitat replacement mitigation actually involves the creation of new habitat to replace the habitat lost through conversion, and as such constitutes true mitigation. Therefore, the requirement for off-site mitigation for agricultural conversion is not analogous to off-site mitigation for habitat conversion since no new agricultural land would be created thereby.

For the City of Lodi, the consideration of agricultural easements poses a number of complex and unresolved issues. Substantial questions exist concerning which lands to acquire for preservation, and the appropriate amount of any acquisition fee where the land would not be acquired by the applicant directly. With respect to the location of equivalent land to preserve, it would clearly not be prudent or appropriate to target lands within the City's General Plan area, because these lands will be required for the City's urban expansion over the coming years. With regard to the amount of a fee to be assessed to project proponents, the law requires a nexus and "rough proportionality" between the amount of the fee and the burden of the project. Difficulties arise when the land to be converted has a much higher value than the equivalent amount of any land beyond the urban growth boundaries which might be considered to be placed under a conservation easement.

The City of Lodi General Plan currently contains no policy or implementation language regarding the establishment of agricultural easements. Additionally, neither the City nor San Joaquin County has a program for administering agricultural easements. Such a program would provide a process for selection and acquisition of appropriate lands, establishment of fees, and other procedural elements that would need to be in place to ensure consistent implementation and management. Moreover, such action not be warranted in any event, and would not meet the CEQA nexus requirement, since it would have no effect in terms of lessening the impact of the agricultural conversion.

In this context, it is worthwhile noting that the applicant for the Vintner's Square Shopping Center project, currently under construction on the north side of Kettleman Lane across from the project site, has voluntarily offered to acquire an equivalent acreage of prime agricultural land elsewhere in the unincorporated County of San Joaquin as an offset for the conversion of prime agricultural land at the Vintner's Square site. The City of Lodi has acknowledged this offset as a voluntary condition of the applicant; however, it should be emphasized that this offset is not considered by the City to constitute mitigation for converting the site from prime farmland to urban uses, and as such was not required by the City as condition of project approval, and is explicitly not to be construed as such, for the reasons discussed above.

Farmland Security Zones

Government Code Section 51296 and following provides for the establishment of "farmland security zones" within designated agricultural preserves. Legislation authorizing farmland security zones was enacted to expand the options available to landowners by providing for the creation of longer term voluntary enforceable restrictions within agricultural preserves. Essentially, farmland security zones provide tax benefits for agricultural landowners for longer term contracts than exist under the Williamson Act (20 years as opposed to 10 years), and slightly different terms related to the administration of those contracts. No land can be included in a farmland security zone unless requested by the landowner, and any land located within a city's sphere of influence cannot be included unless the creation has been approved by the city with jurisdiction within the sphere of influence.

The County of San Joaquin has enacted a program for administering farmland security zones within its boundaries, and some participation by landowners has occurred to date. However, these properties generally must be located outside the urban growth boundaries of incorporated cities, and most of the properties currently in the program are far from urban areas and not under threat for imminent conversion to urban uses. (No farmland security zones have been established within the City of Lodi Sphere of Influence.) Although farmland security zones provide for longer term protection of agricultural land than Williamson Act contracts, they still represent a relatively short-term approach and do not represent a feasible means for permanent protection of agricultural land.

Right-to-Farm Deed Restrictions

This measure requires the developer to record a deed restriction that specifically notifies all future owners that they are in proximity to agricultural uses, and lists the types of operations and possible nuisances or inconveniences associated with farming such as dust, noise, smoke, odors, pesticides, insects and rodents. Future purchasers are thereby notified that they must accept such annoyances unless they are of such a magnitude as to meet the state law definition of nuisance. The requirement for such deed restrictions must be mandated by right-to-farm ordinances adopted by the local jurisdiction. The ordinances typically include provisions for dispute resolution between landowners and agricultural users. Right-to-farm deed restrictions help to avoid premature conversion of farmland near the urban edge and help maintain the viability of such agricultural

operations. As with the other measures discussed above, right-to-farm deed restrictions do not constitute mitigation for the loss of farmland per se, but enhance the continued viability of existing operations. The City of Lodi's a right-to-farm ordinance requires that disclosure statements be delivered and signed by buyers of property or applicants for building permits in the vicinity of agricultural operations (City of Lodi Municipal Code, Title 8 - Health and Safety, Chapter 8.18).

**Conclusion**

In conclusion, the City has in fact minimized and substantially lessened the significant effects of development on prime agricultural land where feasible through the policies of its adopted General Plan. These policies are intended to ensure that prime agricultural land is not prematurely converted for development and that its productivity is maintained for as long as is feasible.

Under CEQA, the City's General Plan regulatory scheme and policies constitute "mitigation" as defined in the CEQA Guidelines in two respects: By "[m]inimizing impacts by limiting the degree or magnitude of the action and its implementation," and [b]y reducing...the impact over time by preservation and maintenance operations during the life of the action" (CEQA Guidelines section 15370(b) and (d). This mitigation has proved feasible and effective. Additional mitigation for the project-specific impacts has been found by the City to be unnecessary or infeasible for the reasons set forth above.

**Significance after Mitigation: Significant and Unavoidable Impact.**

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**Impact B2.** **Agricultural-Urban Land Use Conflicts. Development of the project site could create minor land use conflicts with nearby agricultural operations. (Less-than-Significant Impact)**

Existing agricultural operations occur on adjacent lands to the west and south of the project site. Urban impacts on agriculture can include trespassing, vandalism, air pollution and noise from increased traffic. The potential for accidents between slow-moving farm vehicles and fast-moving cars and trucks can also increase. The use of pesticides and other agricultural chemicals is often restricted in proximity to urban uses, particularly aerial application or crop dusting. Agricultural impacts on urban uses include noise, dust, and pesticide drift, although the proposed commercial retail plaza would be less sensitive to such activities than residential uses would be.

The potential for project impacts to adjacent agricultural operations are reduced because of the urbanized nature of the project vicinity at the western edge of urbanized Lodi, where the potential for urban-rural conflicts already exists. Non-rural land uses in the vicinity include the existing commercial and residential uses immediately to the east, the approved Vintner's Square project which is under construction immediately to the north, and the busy transportation corridors along the east and north site boundaries (Lower Sacramento

Road and State Route 12/West Kettleman Lane). Thus agricultural operations in the area have already had to adjust to the intrusion of urban uses and related traffic.

The existing agricultural operations could potentially affect the proposed commercial retail uses. In particular, plowing activities would generate dust which could be carried to the site. However, the potential for dust generation would occur only occasionally when fields are plowed or when bare soils are exposed under high wind conditions. This effect will be somewhat reduced because the commercial uses of the project would be less sensitive to agricultural dust generation than residential development would be. In addition, the lands adjacent to the southwest portion of the site will be occupied by the stormwater basin for the project, and the lands adjacent to the northwest portion of the site are planned as the site of a new electric power substation and municipal water storage tank. These facilities will essentially provide a buffer zone approximately 400 to 600 feet wide along much of the western project boundary. In addition, Westgate Drive will run along the western site boundary and provide a minimum 72-foot buffer west of the central portion of the project. The project itself will include a 10-foot high masonry wall along southerly two-thirds of the western site boundary, which will provide additional screening from windblown dust.

Although the project will be directly adjacent to cultivated vineyards to the south, potential conflicts will be reduced by the 8-foot high masonry wall planned for the entire length of the southern project boundary. Although pesticides would be applied to the vineyards, the application would not be by aerial spraying, given the proximity of commercial and residential development. Therefore, the potential for pesticide drift would be minimal. Given the prevailing wind direction from the northwest, the potential for dustfall due to occasional plowing would be reduced since the project is located north of the vineyards. In addition, the lands to the south and west are designated for residential development in the City's General Plan and are the subject of a pending annexation application, so any urban-agricultural conflicts would be limited in duration until those lands are developed. In light of the above factors and considerations, the potential impacts due to agricultural-urban conflicts associated with the project would be less-than-significant.

**Mitigation.** **No mitigation required.**

# C. GEOLOGY AND SOILS

The discussion in this section is based on the geologic and geotechnical feasibility study prepared by Twining Laboratories in May 2004. The geological report is contained in Appendix B of this EIR.

## ENVIRONMENTAL SETTING

### Geologic Setting

The project site is located in the southern portion of the Sacramento Valley, which is bordered by Sierra Nevada Range to the east and the Diablo Range tier of the Coast Ranges to the west. Large coalescing alluvial fans have developed along each side of the valley. The larger and more gently sloping fans occur on the east side and consist of deposits derived from the crystalline rock sources of the Sierra Nevada. Lodi is predominantly located on recent alluvial fan deposits of the Mokelumne River. Surface soils in the Lodi area also comprise small areas of Recent stream channel deposits along the current channel of the Mokelumne River (see 'Soils' below). The site is essentially level, with ground surface elevations ranging from 29 to 32 feet National Geodetic Vertical Datum (NGVD). There are no unique geological features within the project site.

### Tectonics and Seismicity

The project site is located in a seismically active region, with numerous active and potentially active faults associated with the Sierra Nevada to the east and the Coast Ranges to the west.

The western San Joaquin Valley is traversed by a series of faults known collectively as the Great Valley Fault System (GVFS), which is believed to be the fundamental tectonic boundary between the Coast Range province and the Sierran block. The 6.7 magnitude Coalinga Earthquake of 1983 occurred within this fault complex. It is estimated that the nearest segment of the GVFS lies approximately 24 miles west of the site. Maximum magnitude earthquakes ranging from 6.3 to 6.7 are estimated to occur along this fault system.

The Foothills Fault System, a complex of fault zones located approximately 26 miles east of the site along the eastern margin of the Sierra Nevada, produced an earthquake with a magnitude of 5.7 at Oroville in 1975.

Other active faults capable of producing ground shaking at the site include the Greenville (33 miles southwest), Concord-Green Valley (40 miles west), Calaveras (44 miles southwest), Hayward (52 miles southwest), Ortigalita (58 miles south), West Napa (51 miles northwest), Hunting Creek-Berryessa (54 miles northwest), Rodgers Creek (56 miles west), and San Andreas (71 miles west), with maximum magnitudes ranging from 6.1 to 7.9.

### Seismic Hazards

The potential seismic hazards of concern to the project include groundshaking, ground rupture, liquefaction, and seismic settlement. These are discussed in turn below.

Ground Shaking

There are 24 faults and fault segments within approximately 75 miles of the site which could result in groundshaking at the project. The ground acceleration with a 10 percent probability of occurring in 100 years was determined to be 0.27g (g = the force of gravity). The California Building Code designates the site as lying within seismic Zone 3, and specifies corresponding design criteria applicable to new construction in this zone.

Ground Rupture

Damage resulting from fault rupture occurs only where structures are located astride fault traces that move during earthquakes. The project site is not located in a state-designated fault rupture zone under the Alquist-Priolo Earthquake Fault Zoning Act. The potential for surface rupture at the site is low.

Liquefaction

Liquefaction is the phenomenon in which a saturated, cohesionless soil losses structural strength during an earthquake as a result of induced shearing strains, which essentially transforms the soil to a liquid state resulting in ground failure or surface deformation. Conditions required for liquefaction include fine, well-sorted, loose sandy soil, high groundwater, higher intensity earthquakes, and particularly long duration of ground shaking. Ground accelerations of at least 0.10g and ground shaking durations of at least 30 seconds are needed to initiate liquefaction. The soils of the project site consist of silty sands and sandy silts, with the depth to groundwater at 40 feet below ground surface or lower. Due to the depth of groundwater at the site, the potential for surface deformation resulting from liquefaction is low. In addition, the site is not located within a Seismic Hazard Zone for liquefaction hazards as specified by the State of California (Seismic Hazard Mapping Act of 1990).

Seismic Settlement

Seismic settlement can occur in both saturated and unsaturated granular soils, and results from the rearrangement of granular soils during cyclic loading induced by ground shaking, resulting in volume reduction and surface deformation. Sites along the eastern portion of the Central Valley are generally not susceptible to significant seismic settlement. The soils of the site are susceptible to seismic settlements of ¼ to ½ inch, which is considered acceptable for structures. However, subsequent design-level geotechnical investigations could produce seismic settlement estimates that exceed tolerable limits for the building types planned.

Landslides

Due to the relatively level topography of the site, the potential for landslides of native slopes is low. The site is not located within a Seismic Hazard Zone for seismically-induced landslides as specified by the state Seismic Hazard Mapping Act of 1990.

Lateral Spreading or Slumping

Lateral spreading is the lateral displacement of flat-lying alluvial material toward an open area or a free face such as a steep bank of a stream channel. It can occur with seismic ground shaking on slopes with saturated

soils. Since the project is virtually flat, the potential for lateral spreading is considered to be low. However, there may be a potential for bank instability at the stormwater basin proposed for the project.

**Soils**

According to information provided by the Natural Resources Conservation Service (NRCS), the soils covering most of the project site consist of Acampo sandy loam with some areas of Tokay fine sandy loam found in the north-central portion of the site.

The Acampo sandy loam has a low shrink-swell potential, moderately rapid permeability, and low erosion potential. It has a land capability classification of Class II as irrigated land and Class IV as non-irrigated land, with a Storie Index agricultural rating as 57, or Grade 3. (See Section *II. B. Agricultural Resources* for further discussion.)

Tokay fine sandy loam is characterized as having a low shrink-swell potential, moderately rapid permeability, low erosion potential, and high corrosivity to steel and moderate corrosivity to concrete. It has a land capability classification of Class I as irrigated land and Class IV as non-irrigated land, with a Storie Index rating of 95, or Grade 1.

The geotechnical feasibility study conducted by Twining Labs found soil characteristics to be similar to those identified by the NRCS. The near surface soils are anticipated to exhibit low to moderate compressibility and collapse characteristics (abrupt settlement upon wetting of soils - "moisture-induced collapse"), high shear strength, and fair to good support characteristics for pavements. The study found that the soils exhibit a mildly corrosion potential to buried metal objects.

**Groundwater Conditions**

Historical groundwater data from one of the on-site wells indicates that groundwater levels ranged from about 42 feet to 54 feet below the ground surface over the past 10 years.

**Mineral Resources**

Review of the California Geologic Survey publications list indicates that the project site does not include locally important or other known mineral resources.

## REGULATORY SETTING

### General Plan

The following City of Lodi General Plan goals and policies on geology and soils are relevant to the project:

***Section 7: Conservation Element***

Goal D: To conserve soil resources.

Policy 1. The City shall require developers to prepare an erosion and sediment control plan, prior to approving development, that includes features such as mitigation of sediment runoff

beyond proposed project boundaries and complete revegetation and stabilization of all disturbed soils (including details regarding seed material, fertilizer, and mulching).

***Section 9. Health and Safety Element***

Goal B: To prevent loss of lives, injury, and property damage due to the collapse of buildings and critical facilities and to prevent disruption of essential services in the event of an earthquake.

Policy 3. The City shall ensure that all public facilities, such as buildings, water tanks, underground utilities, and levees, are structurally sound and able to withstand seismic activity.

## SIGNIFICANCE CRITERIA

For purposes of this EIR, the project would be considered to result in a significant geology and soils impact if it would:

- Expose people or structures to potential substantial adverse effects including the risk of loss, injury, or death involving:
  i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault;
  ii) Strong seismic ground shaking;
  iii) Seismic-related ground failure, including liquefaction;
  iv) Landslides.

- Result in substantial soil erosion or the loss of topsoil.

- Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse.

- Be located on expansive soil, creating substantial risks to life or property.

## IMPACTS AND MITIGATION

**Impact C1. Seismic Ground Shaking. Strong ground shaking occurring on the site during a major earthquake event could cause severe damage to project buildings and structures. (Significant Impact)**

Historically, major earthquakes centered on an area faults have resulted in moderate to severe ground shaking at the project site. It is expected that a major earthquake will result in severe ground shaking at the site during the life of the project.

Ground shaking will cause dynamic loading resulting in stress to buildings and structures. However, structures designed and built in accordance with the Uniform Building Code, as

required by the City of Lodi, and designed using a Z factor of 0.3 should respond well except during the most severe potential ground shaking.

Since there is no evidence indicating the presence of faults on the site, the potential for fault rupture at the site is extremely low.

**Mitigation C1. Structural damage to buildings resulting from ground shaking shall be minimized by following the requirements of the Uniform Building Code, and implementing the recommendations of the project geotechnical engineer.**

Structures at the site would be designed and constructed to withstand anticipated earthquake loads. A structural engineer, experienced in the design and construction of commercial structures within areas of high seismicity, would be retained to provide design and construction recommendations.

**Significance after Mitigation: Less-than-Significant Impact.**

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**Impact C2.** **Seismic Settlement. There is a potential for seismically-induced ground settlements at the site, which could result in damage to project foundations and structures. (Significant Impact)**

Soils investigations undertaken at the site to date indicate that maximum seismic settlements of ¼ to ½ inch can be expected. These settlements are not anticipated to exceed the tolerances for conventional shallow spread foundations or slabs on grade. However, if subsequent design-level geotechnical investigations produce seismic settlement estimates that exceed the tolerable limits for the building types planned, unacceptable settlements could occur during seismic events.

**Mitigation C2. If design-level geotechnical studies indicate unacceptable levels of potential seismic settlement, available measures to reduce the effects of such settlements would include replacement of near-surface soils with engineered fill, or supporting structures on quasi-rigid foundations, as recommended by the project geotechnical engineer.**

All construction proposed within the project site will be subject to design-level geotechnical investigations required at the time of use permit application. These subsurface studies will involve detailed evaluations of on-site soil conditions and provide construction-level recommendations for potential settlements. If predicted settlements are predominantly the result of near surface loose soils, these soils could be entirely or partially removed from beneath the planned footings and replaced with engineered fill. If seismic settlements are predominantly the result of relatively deep loose soils (liquefaction below the water table), measures to reduce the effects of differential settlements would include supporting structures on quasi-rigid systems such as mat foundations and grade beams, or deep foundation systems such as piles. The recommendations of the geotechnical engineer will be implemented, as required by the City of Lodi.

**Significance after Mitigation: Less-than-Significant Impact.**

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**Impact C3.** **Stormwater Basin Bank Instability. There is a potential for bank instability along the banks of the proposed basin. (Significant Impact)**

The potential for bank instability would be investigated as part of the design-level geotechnical study. The study could result in a recommended establishment of a setback zone from the basin. Preliminary estimates suggest that setbacks would be on the order of 30 to 60 feet for buildings with typical shallow spread foundations.

The project site plan indicates that the nearest buildings in the proposed project would be located approximately 180 feet from the basin.

**Mitigation C3. Design-level geotechnical studies shall investigate the potential of bank instability at the proposed stormwater basin and recommend appropriate setbacks, if warranted.**

The recommendations of the geotechnical engineer will be implemented, as required by the City of Lodi.

**Significance after Mitigation: Less-than-Significant Impact.**

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**Impact C4.** **Soil Consolidation and Collapse. Soils present on the site are subject to moisture-induced collapse, which could result in damage to structures. (Significant Impact)**

Testing conducted by Twining Labs indicated that the near surface soils exhibit moderate potential for "moisture-induced collapse" or abrupt settlement upon wetting of the soils.

**Mitigation C4. The effects of soil consolidation and collapse can be mitigated by placing shallow spread foundations on a uniform thickness of engineered fill; design-level geotechnical investigations shall identify specific measures as appropriate to mitigate these conditions in response to localized site conditions.**

All construction proposed within the project site will be subject to design-level geotechnical investigations required at the time of use permit application. Based on project-specific soil conditions, the geotechnical engineer will make construction-level recommendations for minimizing the potential for moisture-induced collapse. The recommendations of the geotechnical engineer will be implemented, as required by the City of Lodi.

**Significance after Mitigation: Less-than-Significant Impact.**

**Impact C5.** **Expansive Soils. There is a low, but not necessarily insignificant, potential for soils expansion at the site, which could result in differential subgrade movements and cracking of foundations. (Significant Impact)**

Expansive soils are subject to shrinking and swelling during seasonal wetting and drying cycles. The resulting changes in soil volume can cause cracking of foundations and floor slabs. The NRCS soils survey indicates that the near-surface soils at the project site have a low shrink-swell potential. However, soil conditions can be highly variable within short distances, and localized pockets of expansive soils may be present on the site.

**Mitigation C5. The potential damage from soils expansion would be reduced by placement of non-expansive engineered fill below foundation slabs, or other measures as shall be determined by design-level geotechnical studies.**

This would include placing the bottoms of foundations below the zone of seasonal moisture fluctuation, placing interior and exterior slabs on a uniform thickness of non-expansive engineered fill, and by moisture conditioning the fill soils. The geotechnical report to be prepared at the engineering design stage would prescribe minimum footing depths and minimum thickness of engineered fill below slabs.

**Significance after Mitigation: Less-than-Significant Impact.**

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**Impact C6.** **Soil Corrosivity. The corrosion potential of the on-site soils could result in damage to buried utilities and foundation systems. (Significant Impact)**

The NRCS soils survey indicates that both on-site soil types exhibit a high corrosivity to steel and a moderate corrosivity to concrete. Geotechnical studies to be undertaken at the engineering design stage will determine more specifically the corrosive properties of the site soils.

**Mitigation C6. The potential damage from soil corrosivity can be mitigated by using corrosion-resistant materials for buried utilities and systems; specific measures shall be specified by an engineering geologist as appropriate in response to localized conditions.**

Specific measures would include using corrosion-resistant coatings and cathodic protection for buried steel, and using sulfate-resistant material to prevent erosion of concrete. The geotechnical report to be prepared at the engineering design stage would prescribe specifications for corrosion protection.

**Significance after Mitigation: Less-than-Significant Impact.**

[Note: Erosion and siltation impacts are addressed in Section *II. D. Hydrology and Water Quality.*]

# D. HYDROLOGY AND WATER QUALITY

The following discussion is partially based on a drainage report prepared by Phillippi Engineering in May 2004. The drainage report is contained in Appendix D of this EIR.

## ENVIRONMENTAL SETTING

Stormwater runoff within the city is managed by the City of Lodi through a system of storm drain lines, drainage ditches, stormwater basins, and pump stations. Approximately half of the City's storm drainage is discharged to the Mokelumne River to the north. However, since the topography predominantly slopes to the southwest away from the river, the remaining storm drainage is conveyed to the Woodbridge Irrigation District (WID) Canal which runs through the southern and western portions of the City from southeast to northwest. However, due to capacity limitations in the canal, the City's overall discharge rate to the canal is limited to 160 cubic feet per second (cfs) during the winter, with a maximum rate of 60 cfs per discharge site. Since this is only a small fraction of the peak storm runoff rate, the excess must be temporarily stored in a system of stormwater basins. Most of these basins also serve as City parks and playing fields.

Runoff from developed areas in the project vicinity is conveyed eastward to a 60-inch pipe which flows south in Sylvan Way and Sage Way and connects to a 48-inch pipe in West Century Boulevard. This pipe carries flows east to Beckman Park where it is discharged for temporary storage. Beckman Park functions as a stormwater basin in conjunction with DeBennedetti Park to the west, which provides temporary overflow storage for the Beckman Park facility. Stormwater from Beckman Park is discharged to the WID Canal at a regulated rate after the peak flows in the canal have passed through. Flows in the WID Canal are ultimately carried to the Sacramento-San Joaquin Delta.

### Site Drainage

Under current conditions, the undeveloped project site is not served by any improved storm drainage facilities. There is a City 12-inch storm drain in Lower Sacramento Road which stubs out to the property, but no site drainage enters this pipe under existing conditions. Most rain falling on the site is either absorbed into the soil or evaporates into the atmosphere. Storm flows from major storm events tend to migrate with the natural site gradient in a southerly direction, with the drainage collected in a ditch along Lower Sacramento Road and conveyed south.

The estimated peak runoff rate from the site for the 10-year storm event under pre-development conditions is 6.27 cfs.

### Flooding Potential

According to the Flood Insurance Rate Map (FIRM) covering the project area, the project site lies within flood zone B. This zone includes areas subject to flooding during storms between the 100-year and 500-year events, or certain areas subject to 100 year flooding with depths of less than one foot; or where the contributing area is less than one square mile; or areas protected by levees from the base flood. Most of Lodi is protected from 100-year flooding by the levee system along the Mokelumne River, and only lands within the immediate vicinity of the river are subject to inundation during the 100-year event. Much of the

City, including the project site, would be flooded during the 500-year event, although flood depths for the 500-year flood event have not been established.

## REGULATORY SETTING

### General Plan

The following City of Lodi General Plan goals and policies on hydrology and water quality are relevant to the project:

***Section 3. Land Use and Growth Management Element***

Goal J: To maintain an adequate level of service in the City's water, sewer collection and disposal, and drainage system to meet the needs of existing and projected development.

Policy 1. The City shall develop new facilities, as necessary, to serve new development in accordance with the City's Water, Wastewater, and Drainage Master Plans.

Policy 2. The City shall assess water, wastewater, and drainage development fees on all new residential, commercial, office, and industrial development sufficient to fund required systemwide improvements.

***Section 7: Conservation Element***

Goal D: To conserve soil resources.

Policy 1. The City shall require developers to prepare an erosion and sediment control plan, prior to approving development, that includes features such as mitigation of sediment runoff beyond proposed project boundaries and complete revegetation and stabilization of all disturbed soils (including details regarding seed material, fertilizer, and mulching).

***Section 9: Health and Safety Element***

Goal A: To prevent loss of lives, injury, and property damage due to flooding.

Policy 2. The City shall ensure that storm drainage facilities are constructed to serve new development adequate to store runoff generated by a 100-year storm.

Policy 3. The City shall ensure that storm drainage facilities are provided for all new development to make certain that all surface runoff generated by new the development is adequately handled.

## SIGNIFICANCE CRITERIA

For purposes of this EIR, the project would be considered to result in a significant hydrological or water quality impact if it would:

- Substantially increase the rate or amount of surface runoff in a manner which would exceed the capacity of existing or planned stormwater drainage systems or result in flooding on- or off-site.

- Create or contribute runoff water which would result in substantial erosion or siltation on- or off-site, or which would substantially degrade water quality through the generation of urban runoff pollutants.

- Expose people or structures to a significant risk or loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam; or place within a 100-year flood hazard area structures which would impede or redirect flood flows.

## IMPACTS AND MITIGATION MEASURES

**Impact D1.** **Increased Stormwater Runoff. The project would result in a substantial increase in stormwater runoff generated at the site compared to existing conditions; however, the planned stormwater basin and regulated discharges to the City of Lodi storm drain system and the Woodbridge Irrigation District Canal would avoid downstream flooding and drainage impacts. (Less-than-Significant Impact)**

The development of the project would result in the coverage of approximately 85 percent of the main project site (not including the stormwater basin) with impervious surfaces, and therefore would increase the volume and velocity of peak runoff leaving the site. Peak runoff rates for the 10-year event would increase from 6.77 cfs under current conditions to 44.72 cfs under project conditions, an increase of about 560 percent.

As discussed under 'Environmental Setting,' the City of Lodi controls most of the stormwater runoff generated in the urbanized area through a series of stormwater basins. The basins in the southwestern portion of the City provide temporary storage of stormwater prior to discharge to the Woodbridge Irrigation District Canal at controlled rates after peak flood flows in the canal have passed.

At the present time, the project area is not served by a City-operated stormwater basin, although such a facility is planned to be constructed to the west of the project site in the future. The general intent is to construct a series of stormwater basins within a greenbelt area along the City's western growth boundary, located one-half mile to the west, similar to the concept contained in the Westside Facilities Plan for the lands north of Kettleman Lane. These basins would be constructed in conjunction with the private development of the lands to the west for residential uses, as specified in the City's General Plan. While the timing of this development is unknown, there is a pending annexation application for this area, so it could occur within the next several years. (See Section *III. Cumulative Impacts* for a detailed discussion of this proposed annexation area.) In the meantime, the City is requiring developers to provide temporary stormwater basins to accommodate the increased stormwater runoff from their projects until such time as the permanent City-operated facilities are completed. The project includes the construction of a temporary stormwater basin for the project as described below.

The runoff generated by the project will be collected by a system of storm drain inlets, underground storm drains, and vegetated swales (bioswales)(see Figure 8), and piped to a temporary stormwater basin planned for a 3.65-acre site adjacent to the southwest corner of the main project site. Based on City requirements that the temporary basin be designed to accommodate the flow volume generated by a 100-year 48-hour storm, the basin will be designed with a 15.03 acre-foot capacity (see Drainage Study in Appendix C for calculations). Once each storm event has passed, stored runoff will be pumped east to Lower Sacramento Road through an underground pipeline to be installed along the southern project boundary. The drainage flows will enter the existing 21-inch City storm drain in Lower Sacramento Road. This line heads east through the Sunwest Shopping Center and ultimately joins the 60-inch trunk line in Sylvan Way which conveys flows to the City stormwater basins at Beckman Park and the future DeBennedetti Park site prior to discharge to the Woodbridge Irrigation District Canal.

The stormwater basin will be about 10 feet deep and will have side slopes of 4:1 (horizontal:vertical), per City of Lodi standards. The basin will have a 10-foot wide access road and a 10-foot wide landscaped setback area between the edge of the basin and the perimeter fence enclosing the basin site. The basin would be operated and maintained by the property owners until the project stormwater collection system can be connected to a future City system and conveyed to the future permanent City stormwater basin planned to the west of the project site. Once the permanent City facility is in place, the temporary basin serving the project would be backfilled and brought to a condition suitable for the residential development designated for these lands in the General Plan.

**Mitigation.** **No mitigation required.**

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**Impact D2.** **Flooding. During the 100-year storm event, the project site may be subject to shallow flooding to depths of less than one foot; however, all finished floors will be on raised pads at least one foot above existing ground elevations to prevent flooding of retail buildings. (Less-than-Significant Impact)**

To facilitate positive site drainage, the building pads will be raised to one foot above existing ground elevations, with grades sloping away from the building pads toward storm drain inlets in the parking areas or vegetated swales along the north and south perimeters of the project site. The elevated building pads will provide flood projection from shallow flooding which may occur on the site during the 100-year event.

**Mitigation.** **No mitigation required.**

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**Impact D3.** **Erosion and Sedimentation. During grading and construction, erosion of exposed soils and pollutants from equipment may result in water quality impacts to downstream water bodies. (Significant Impact)**

The development of the project site would involve site clearing, mass grading, excavation, trenching, and final grading for roads, utilities, building pads, and the stormwater basin. While soils are exposed, the potential for erosion and sedimentation would be high.

Discharge of hydrocarbons and other toxic substances can also occur during the construction phase if fuels, oils or washwater from equipment washing or sanitary facilities leak or are spilled. These and other construction-related pollutants would potentially be carried by runoff to nearby drainage courses.

**Mitigation D3. A comprehensive erosion control and water pollution prevention program shall be implemented during grading and construction, to be specified by the City of Lodi.**

Typical measures required by the City of Lodi to be implemented during the grading and construction phase include the following:

- Schedule earthwork to occur primarily during the dry season to prevent most runoff erosion.
- Stabilize exposed soils by the end of October in any given year by revegetating disturbed areas or applying hydromulch with tetra-foam or other adhesive material.
- Convey runoff from areas of exposed soils to temporary siltation basins to provide for settling of eroded sediments.
- Protect drainages and storm drain inlets from sedimentation with berms or filtration barriers, such as filter fabric fences or rock bags or filter screens.
- Apply water to exposed soils and on-site dirt roads regularly during the dry season to prevent wind erosion.
- Stabilize stockpiles of topsoil and fill material by watering daily, or by the use of chemical agents.
- Install gravel construction entrances to reduce tracking of sediment onto adjoining streets.
- Sweep on-site paved surfaces and surrounding streets regularly with a wet sweeper to collect sediment before it is washed into the storm drains or channels.
- Store all construction equipment and material in designated areas away from waterways and storm drain inlets. Surround construction staging areas with earthen berms or dikes.
- Wash and maintain equipment and vehicles in a separate bermed area, with runoff directed to a lined retention basin.
- Collect construction waste daily and deposit in covered dumpsters.

- After construction is completed, clean all drainage culverts of accumulated sediment and debris.

In conjunction with approval of the Improvement Plans for the project, the City of Lodi will require preparation of a grading, drainage, and erosion control plan which includes features such as mitigation of sediment runoff beyond proposed project boundaries and complete revegetation and stabilization of all disturbed soils.

Additionally, the project will comply with EPA's National Pollutant Discharge Elimination System (NPDES) permit requirements for construction activities. These are implemented at the state level through the General Permit for Discharges of Storm Water Associated with Construction Activity, as administered by the State Water Resources Control Board and the Regional Water Quality Control Board. Prior to construction grading for the project, the applicant will be required to file a "Notice of Intent" (NOI) with the Regional Board to comply with the General Permit and prepare a Storm Water Pollution Prevention Plan (SWPPP) which addresses measures to be included in the project to minimize and control construction and post-construction runoff. The SWPPP must address water quality mitigation for both the construction and post-construction periods, and include provisions for monitoring of discharges to stormwater systems. The SWPPP is to be kept on-site during construction, and is to be updated each year as site development proceeds.

The construction period water quality protection measures contained in the SWPPP will include many of the items listed above including: soil stabilization practices, sediment control practices, sediment tracking control practices, wind erosion control practices, and non-stormwater management, vehicle and equipment fueling and maintenance practices, and waste management and disposal control practices, among other things.

**Significance after Mitigation: Less-than-Significant Impact.**

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**Impact D4.** **Urban Nonpoint Source Pollution. The project would generate urban nonpoint contaminants which may be carried in stormwater runoff from paved surfaces to downstream water bodies. (Significant Impact)**

After completion of site development, the parking and circulation areas within the project site would accumulate hydrocarbon by-products, heavy metals, and sediments from automobiles which would be flushed into the storm drainage system. In addition, the pesticides and fertilizers applied within the landscaped areas could be washed away during rainstorms or as a result of over-irrigation. Unless controlled, these pollutants would contribute to cumulative nonpoint contaminant loads in downstream drainages and water bodies.

**Mitigation D4. The project shall include structural and non-structural controls, to be specified by the City of Lodi, in order to reduce nonpoint source pollutant loads.**

In January 2003, the City adopted a Stormwater Management Plan (SMP) to implement the provisions of its Phase II NPDES stormwater permit issued by the State Water Resources

Control Board. The SMP contains a comprehensive program for the reduction of surface water pollution. The program areas most applicable to the project are post-construction runoff control and pollution prevention/good housekeeping.

As discussed in the Section *I. B. Description of the Proposed Project*, the project includes feasible structural BMPs (Best Management Practices) such as vegetated swales and a stormwater basin. Much of the stormwater runoff generated in the northern and southern portions of the site will be conveyed to vegetated swales or bioswales which will provide partial filtering of pollutants and sediments. This partially treated runoff, along with all other parking lot and roof runoff from the project will be conveyed to the 3.65-acre stormwater basin planned adjacent to the southwest corner of the site. The basin would serve as a settling pond where suspended sediments and urban pollutants would settle out prior to discharge of the collected stormwater into the City's storm drain system, thereby reducing potential surface water quality impacts to drainages and water bodies. The pump intake for the basin will be located two feet above the bottom to provide for accumulation of sediments which would be cleaned out on a regular basis.

Non-structural BMPs typically required by the City include the implementation of regular maintenance activities (e.g., damp sweeping of paved areas; inspection and cleaning of storm drain inlets; litter control) at the site to prevent soil, grease, and litter from accumulating on the project site and contaminating surface runoff. Stormwater catch basins will be required to be stenciled to discourage illegal dumping. In the landscaped areas, chemicals and irrigation water will be required to be applied at rates specified by the project landscape architect to minimize potential for contaminated runoff. Additional BMPs, as identified from a set of model practices developed by the state, may be required as appropriate at the time of Improvement Plan approval.

**Significance after Mitigation: Less-than-Significant Impact.**

# E. BIOLOGICAL RESOURCES

This discussion is based on the biological resources assessment prepared by Live Oak Associates (LOA) in July 2004. The biological report is contained in Appendix E of this EIR.

## ENVIRONMENTAL SETTING

### Biotic Habitats

One biotic habitat, consisting of ruderal (weedy) habitat, occurs on the project site. Also, an agricultural irrigation ditch runs in a north to south direction through the western portion of the site and along portions of the northern and southern boundaries of the site.

Ruderal Habitats

Ruderal habitats, consisting of disturbed land, usually support low species diversity. The term "ruderal" refers to areas which are periodically disturbed by anthropogenic (human) influences. These habitats are characterized by a predominance of non-native grasses and forbs of European origin. Native vegetation is typically sparse to non-existent. At the time of the biological field survey in February 2003, this habitat was surrounded along the site boundaries by small drainage and irrigation ditches which contained little to no water.

Dominant vegetation observed within this habitat on the site included non-native grasses such as wild oats, barnyard barley, ripgut brome, and annual bluegrass. Common exotic forbs occurring in this habitat include clovers, fiddlenecks, redstem filaree, shepherd's-purse, common chickweed, plantains, Persian speedwell, henbit, birdsrape mustard, radish, Russian thistle, yellow star thistle, mallow and the native miner's lettuce.

Few trees occur on the project site or the immediate vicinity. A small patch of young cottonwoods occurs in the irrigation ditch on the northern boundary of the site. Eight mature trees are located along and within the eastern and southern boundaries of the site. These include two small walnut trees and a young coast live oak along the eastern boundary and Lower Sacramento Road, and five larger trees along the southern boundary including two almonds and three walnuts. Directly west of the site, there are an additional seven trees (walnuts, almond, and coast live oaks) along the southern boundary of the ruderal habitat. There are also four mature trees adjacent to the small pond to the west of the project site.

Disturbed land provides very little habitat for terrestrial vertebrates. Native and non-native animals use ruderal habitat primarily for cover and foraging. The study area had been recently disked at the time of the field survey, which left the land barren of vegetation and therefore provided little cover for most terrestrial vertebrates.

Disturbed land may be used as foraging habitat by a variety of birds including killdeer, American crows, western meadowlarks, Brewer's blackbirds, and European starlings. Migratory birds could include western kingbirds in the summer and American pipits and savannah sparrows in the winter. Avian predators such as American kestrels, white-tailed kites, red-tailed hawks, Swainson's hawks, merlins, northern harriers, and loggerhead shrikes are likely to be seen foraging over ruderal and agricultural lands of the Lodi area.

Small mammals common to ruderal habitat include California ground squirrels, house mice, deer mice, and Botta's pocket gophers, among others. Coyotes are also attracted to such habitats by the many small mammals that occur in them. Portions of the site with little vegetation are probably visited by feral and household cats and domestic dogs. None of the above mammalian species were observed on the project site during the field survey, although a few ground squirrel burrows were observed around the perimeter of this habitat. Reptiles that are expected to occur on the study site include gopher snakes, western fence lizards, and southern alligator lizards.

Agricultural Irrigation and Drainage Ditches

An agricultural irrigation drainage ditch runs in a north to south direction through the western portion of the project site, and along portions of the northern and southern site boundaries. A shallow human-made drainage ditch also runs along portions of the northern and eastern site boundaries. At the time of the field survey, water was absent from the ditch, and vegetation was consistent with that of the surrounding ruderal habitat.

**Movement Corridors**

Many terrestrial animals need more than one biotic habitat in order to complete all of their biological activities. With increasing encroachment of humans on wildlife habitats, it has become important to establish and maintain linkages for animals to be able to access locations containing different biotic resources that are essential to maintaining their life cycles. Terrestrial animals use ridges, canyons, riparian areas, and open spaces for movement between their required habitats.

The importance of an area as a "movement corridor" depends on the species in question. Animal movements generally can be divided into three major behavioral categories:

- Movements within a home range or territory.
- Movements during migration.
- Movements during dispersal.

No identified or known "animal corridor" presently exists on the site. However, development of open parcels can result in secondary effects on regional wildlife populations by fragmenting habitats in ways that either create barriers to movement or substantially alter the ability of wildlife to move through a region in order to access more suitable habitats. Even poor quality habitat (in this case ruderal habitat) can and is used by species as movement corridors. The proposed project site, however, does not facilitate regional movement of wildlife in a disproportionate way.

**Special Status Plants and Animals**

Several species of plants and animals within the state of California have low populations, limited distributions, or both. Such species may be considered "rare" and are vulnerable to extirpation as the state's human population grows and the habitats these species occupy are converted to agricultural and urban uses. As described subsequently under 'Regulatory Context', state and federal laws have provided the California Department of Fish and Game (CDFG) and the U.S. Fish and Wildlife Service (USFWS) with a mechanism for conserving and protecting the diversity of plant and animal species native to the state. A sizable number of native plants and animals have been formally designated as threatened or

endangered under state and federal endangered species legislation. Others have been designated as "candidates" for such listing. Still others have been designated as "species of special concern" by the CDFG. The California Native Plant Society (CNPS) has developed its own set of lists of native plants considered rare, threatened or endangered. Collectively, these plants and animals are referred to as "special status species."

A number of special status plants and animals occur in the vicinity of the project site. These species, and their potential to occur in the study area, are listed in Table 1, beginning on the following pages.

**Special-Status Plant Species**

Of the 14 special-status vascular plant species known to occur in the general project vicinity, as listed in Table 1, the habitats required for all 14 of these special-status plants are absent from the site.

**Special-Status Animal Species**

A total of 11 out of the 23 animal species that occur regionally are considered to be possible occupants or visitors to the site. These include seven raptor species, two songbirds, and two bats species. Five of the seven raptors (white-tailed kite, northern harrier, merlin, golden eagle, and prairie falcon) and one of the two song birds (loggerhead shrike), and the two bat species (Pacific western big-eared bat and California mastiff bat) are expected to forage on the site, but there is no nesting habitat present on the proposed project site for any of these species.

The remaining three species that have the potential to occur on site (two raptors and one songbird) include the Swainson's hawk (California threatened), the burrowing owl (California species of special concern), and the California horned lark (California species of special concern). These species, and the suitability of the site to support them, are discussed in turn below.

Swainson's Hawk

Swainson's hawk is listed as threatened under the California Endangered Species Act but is not protected under the federal Endangered Species Act. Their population has been greatly reduced due to habitat loss (development, conversion of open farm lands into vineyards and orchards, etc.), and also through hunting, pesticides, and competition. The significance of the Swainson's hawk has been recognized locally since before 1990, when the City of Stockton developed a habitat conservation plan for the species. The conservation of the species is also one of the primary objectives of the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP), discussed subsequently.

The Swainson's hawk is a medium-sized hawk that requires areas that contain both suitable foraging and nesting habitat. Foraging habitat consists of grasslands, pastures, and low croplands. Nesting habitat consists of riparian habitat or groves of trees, or sometimes in isolated trees. The best habitat is concentrated along permanent waterways with a continuous canopy of large trees for nesting and grassland, irrigated pasture, or alfalfa or grain fields nearby for foraging. Swainson's hawks breed in California in the summer months, and winter in Mexico and South America.

## TABLE 1

## SPECIAL-STATUS SPECIES THAT COULD POTENTIALLY OCCUR IN THE PROJECT VICINITY

### Plants

Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Act

| Species | Status | Habitat | Occurrence in the Study Area* |
|---|---|---|---|
| Succulent Owl's-Clover *(Castilleja campestris* ssp. *succulenta)* | FT, CE, CNPS 1B | Vernal pools that are often acidic. | Absent. Suitable habitat does not exist on the study area. |
| Delta Button-Celery *(Eryngium racemosum)* | CE, CNPS 1B | Found in riparian scrub in vernally mesic clay depressions. | Absent. Suitable habitat does not exist on the study area. |
| Mason's Lilaeopsis *(Lilaeopsis masonii)* | CR, CNPS 1B | Brackish or freshwater marshes and swamps, and riparian scrub. | Absent. Suitable habitat does not exist on the study area. |

Other special status plants listed by CNPS

| Species | Status | Habitat | Occurrence in the Study Area* |
|---|---|---|---|
| Suisun Marsh Aster *(Aster lentus)* | CNPS 1B | Brackish or freshwater marshes and swamps. | Absent. Suitable habitat does not exist on the study area. |
| Alkali Milk-Vetch *(Astragalus tener* var. *tener)* | CNPS 1B | Playas, adobe clay valley and foothill grasslands, and alkaline vernal pools. | Absent. Suitable habitat does not exist on the study area. |
| Bristly Sedge *(Carex comosa)* | CNPS 2 | Coastal prairies, lake margins of marshes and swamps, and valley and foothill grasslands. | Absent. Suitable habitat does not exist on the study area. |
| Slough Thistle *(Cirsium crassicaule)* | CNPS 1B | Chenopod scrub, marshes and swamps (sloughs), and riparian scrub. | Absent. Suitable habitat does not exist on the study area. |
| Round-Leaved Filaree *(Erodium macrophyllum)* | CNPS 2 | Cismontane woodlands and clay valley and foothill grasslands. | Absent. Suitable habitat does not exist on the study area. |
| Rose-Mallow *(Hibiscus lasiocarpus)* | CNPS 2 | Freshwater marshes and swamps. | Absent. Suitable habitat does not exist on the study area. |
| Delta Tule Pea *(Lathyrus jepsonii)* | CNPS 1B | Brackish or freshwater marshes and swamps. | Absent. Suitable habitat does not exist on the study area. |
| Legenere *(Legenere limosa)* | CNPS 1B | Vernal pools. | Absent. Suitable habitat does not exist on the study area. |
| Delta Mudwort *(Limosella subulata)* | CNPS 2 | Marshes and swamps. | Absent. Suitable habitat does not exist on the study area. |
| Sanford's Arrowhead *(Sagittaria sanfordii)* | CNPS 1B | Assorted shallow freshwater marshes and swamps. | Absent. Suitable habitat does not exist on the study area. |
| Blue Skullcap *(Scutellaria lateriflora)* | CNPS 2 | Mesic meadows and seeps and marshes and swamps. | Absent. Suitable habitat does not exist on the study area. |

* *See last page of Table 1 for detailed footnote.*

## TABLE 1 (CONT'D)

### SPECIAL-STATUS SPECIES THAT COULD POTENTIALLY OCCUR IN THE PROJECT VICINITY

**Animals**

Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Act

| Species | Status | Habitat | Occurrence in the Study Area* |
|---|---|---|---|
| Valley Elderberry Longhorn Beetle (*Desmocerus californicus dimorphus*) | FT | Lives in mature elderberry shrubs of California's Central Valley and Sierra Foothills. | Absent. Suitable habitat for this species does not exist in the form of elderberry shrubs on the study area. |
| California Red-legged Frog (*Rana aurora draytonii*) | FT, CSC | Rivers, creeks and stock ponds of the Sierra foothills and coast range, preferring pools with overhanging vegetation. | Absent. Suitable habitat for this species does not exist on the study area. |
| California Tiger Salamander (*Ambystoma californiense*) | FC, CSC | Vernal pools and stock ponds of central California. | Absent. Suitable habitat for this species does not exist on the study area. The pond on the adjacent parcel does not support suitable breeding habitat for this species due to the hydrologic conditions (pond does not appear to support water for the necessary period of time) and steep sloped banks. |
| Giant Garter Snake (*Thamnophis gigas*) | FT,CT | Occurs in slow-moving water of emergent wetlands in the San Joaquin and lower Sacramento Valleys. | Absent. Suitable habitat for this species does not exist on the study area. |
| Swainson's Hawk (*Buteo swainsoni*) | CT | Forages in open grasslands of the Central Valley. Requires large trees nearby for nesting. | Possible. This species may forage on the study area, but no nesting habitat is present. There have been two CNDDB occurrences of this species within a three mile radius of the study area. |
| San Joaquin Kit Fox (*Vulpes macrotis mutica*) | FE, CT | Saltbush scrub, grassland, oak woodlands, savanna, and freshwater marsh. | Absent. Suitable habitat for this species does not exist on the study area. The nearest CNDDB or USFWS documented occurrence is greater than ten miles from the site. |

Federal Candidate Species and State Species of Special Concern

| Species | Status | Habitat | Occurrence in the Study Area* |
|---|---|---|---|
| Western Pond Turtle (*Clemmys marmorata*) | CSC | Open slow-moving water of rivers and creeks of central California with rocks and logs for basking. | Absent. Suitable habitat for this species does not exist on the study area. |

## TABLE 1 (CONT'D)

### SPECIAL-STATUS SPECIES THAT COULD POTENTIALLY OCCUR IN THE PROJECT VICINITY

**Animals**

Federal Candidate Species and State Species of Special Concern (cont'd)

| Species | Status | Habitat | Occurrence in the Study Area* |
|---|---|---|---|
| Foothill Yellow-legged Frog (*Rana boylii*) | CSC | Found primarily in swiftly flowing creeks. | Absent. Suitable habitat for this species does not exist on the study area. |
| Western Spadefoot Toad | CSC | Open grasslands, savannahs, and chaparral with sandy to gravelly soil. Breeds in vernal pools or intermittent streams. | Absent. Suitable habitat for this species does not exist on the study area. |
| White-tailed Kite (*Elanus caeruleus*) | CSC | Open grasslands and agricultural areas throughout central California. | Possible. This species may forage on the study area, but nesting habitat is marginal to non-existent. |
| Northern Harrier (*Circus cyaneus*) | CSC | Frequents meadows, grasslands, open rangelands, freshwater emergent wetlands; uncommon in wooded habitats. | Possible. This species may forage on the study area, but no nesting habitat is present on-site. |
| Sharp-shinned Hawk (*Accipiter striatus*) | CSC | Breeds in the mixed conifer forests of the northern Sierra Nevada. This species winters in a variety of habitats of the state. | Absent. Foraging and nesting habitat are absent from the study area. |
| Cooper's Hawk (*Accipiter cooperii*) | CSC | Breeds in oak woodlands, riparian forests and mixed conifer forest of the Sierra Nevada, but winters in a variety of lowland habitats. | Absent. Foraging and nesting habitat are absent from the study area. |
| Merlin (*Falco columbarius*) | CSC | This falcon, which breeds in Canada, winters in a variety of California habitats, including grasslands, savannas, wetlands, etc. | Possible. This species may forage on the study area, but no nesting habitat is present on-site. |
| Prairie Falcon (*Falco mexicanus*) | CSC | Distributed from annual grasslands to alpine meadows; requires cliffs or rock outcroppings for nesting. | Possible. This species may forage on the study area, but no nesting habitat is present on-site. |
| Golden Eagle (*Aquila chrysaetos*) | CSC | Typically frequents rolling foothills, mountain areas, sage-juniper flats and desert. | Possible. This species may forage on the study area, but no nesting habitat is present on-site. |

* *See last page of Table 1 for detailed footnote.*

## TABLE 1 (CONT'D)

### SPECIAL-STATUS SPECIES THAT COULD POTENTIALLY OCCUR IN THE PROJECT VICINITY

**Animals**

Federal Candidate Species and State Species of Special Concern (cont'd)

| Species | Status | Habitat | Occurrence in the Study Area* |
|---|---|---|---|
| Burrowing Owl (*Athene cunicularia*) | CSC | Found in open, dry grasslands, deserts and ruderal areas. Requires suitable burrows. This species is often associated with California ground squirrels. | Possible. Burrowing owls breed locally and could forage on the site if breeding nearby. Limited nesting habitat is present on the site in the form of ground squirrel burrows. No individuals were observed during the February 2003 field visit. |
| Loggerhead Shrike (*Lanius ludovicianus*) | CSC | Nests in tall shrubs and dense trees, forages in grasslands, marshes, and ruderal habitats. | Possible. This species may forage on the study area, but no nesting habitat is present on-site. |
| California Horned Lark (*Eremophila alpestris actia*) | CSC | Short-grass prairie, annual grasslands, coastal plains, open fields. | Possible. This species inhabits a variety of open habitats, usually lacking in trees and shrubs. It is possible that this bird could nest or forage on-site. |
| Tricolored Blackbird (*Agelaius tricolor*) | CSC | Breeds near fresh water in dense emergent vegetation. | Absent. Suitable habitat for this species does not exist on the study area. |
| Pacific Western Big-eared Bat (*Plecotus townsendii townsendii*) | CSC | Primarily a cave-dwelling bat that may also roost in buildings. Occurs in a variety of habitats of the state. | Possible. The site does not provide suitable roosting habitat; the species may rarely to occasionally forage over the site. |
| California Mastiff Bat (*Eumops perotis californicus*) | CSC | Forages over many habitats, requires tall cliffs or buildings for roosting. | Possible. The site does not provide suitable roosting habitat; the species may rarely to occasionally forage over the site. |
| Ringtail (*Bassariscus astutus*) | CP | Occurs in riparian and heavily wooded habitats near water. | Absent. Suitable habitat for this species does not exist on the study area. |

* *See last page of Table 1 for detailed footnote.*

## Table 1 notes

*Present: Species observed on the site at time of field surveys or during recent past.
Possible: Species not observed on the site, but it could occur there from time to time.
Unlikely: Species not observed on the site, and would not be expected to occur there except, perhaps, as a transient.
Absent: Species not observed on the site, and precluded from occurring there because habitat requirements not met.

STATUS CODES

| | |
|---|---|
| FE | Federally Endangered |
| FT | Federally Threatened |
| FPE | Federally Proposed Endangered |
| FC | Federal Candidate |

| | |
|---|---|
| CE | California Endangered |
| CT | California Threatened |
| CSC | California Species of Special Concern |
| CR | California Rare |
| CP | California Protected |

| | |
|---|---|
| CNPS | California Native Plant Society Listing |
| 1A | Plants Presumed Extinct in California |
| 1B | Plants Rare, Threatened, or Endangered in California and elsewhere |
| 2 | Plants Rare, Threatened, or Endangered in California, but more common elsewhere |
| 3 | Plants about which we need more information – a review list |
| 4 | Plants of limited distribution – a watch list |

Swainson's hawks historically were found throughout the lowlands of California with the exception of portions of the desert regions. Currently, there range is limited to a few areas in the Central Valley and Great Basin regions. The conversion of natural lands and low-lying croplands into commercial and residential development and into high-standing croplands such as vineyards, orchards, corn, and rice has reduced the available habitat for this species.

There are two documented occurrences of the Swainson's hawk within a three mile radius of the project site (i.e., one mile south and 2.5 miles southwest). The Swainson's hawk is expected to only periodically forage or pass over the project site. The relatively low number of small mammal burrows on the site limits the likelihood that this species would be a frequent forager. Suitable nesting habitat is absent on or adjacent to the site.

Burrowing Owl

The burrowing owl is a California species of special concern, but is not protected under the provisions of either the state or federal Endangered Species Acts. The western subspecies of the burrowing owl lives west of the Mississippi to the Pacific Coast and from southern Canada into northern Mexico. In California, these birds typically occur in the Central and Imperial Valleys, primarily utilizing ground squirrel burrows (or the burrows of other animals, e.g., badgers, prairie dogs and kangaroo rats) found in grasslands, open shrub lands, deserts, and to a lesser extent, grazing and agricultural lands. Burrowing owls in this region are typically found in lower elevations, and have strong site fidelity. Pairs have been known to return to the same area year after year, and some pairs are known to utilize the same burrow as the previous year.

Burrowing owls feed on various small mammals including deer mice, voles, and rats. They also prey on various invertebrates including crickets, beetles, grasshoppers, spiders, centipedes, scorpions and crayfish. The breeding season for the burrowing owl runs from February to August, with a peak between April and July.

Burrowing owls are subject to predation by larger mammals (e.g., feral cats, bobcats, fox and coyotes) and birds (e.g., great horned owl, northern harrier). They are also susceptible to human activity such as collisions with automobiles, and destruction or disruption of their nests, especially during the breeding season. Burrowing owl has been in decline in California over the past 30 to 40 years, and is disappearing as a breeding bird from a substantial portion of its former range. Loss of habitat and agricultural practices eradicating the burrowing mammals upon which burrowing owls depend for nesting habitat are the primary suspected causes of this decline.

Burrowing owls are able to adapt to some human-altered landscapes and are currently found in dry open grassland, the perimeters of agricultural fields, irrigation ditches, fallow agricultural fields, open fields prepared for development, airports, golf courses, military bases, and parks.

The project contains ground squirrel burrows along the boundaries of the site which provide suitable nesting habitat for this species. No burrowing owls or evidence of them were observed during the field survey conducted by Live Oak Associates in February 2003, but this species could occur on or near the project site in the future.

California Horned Lark

The California horned lark is a California species of special concern, but is not listed as endangered or threatened under the state or federal Endangered Species Acts. California horned lark's population levels are decreasing due to habitat destruction and predation by mammals, snakes, and domestic and feral cats.

The California horned lark is a small, ground nesting bird that historically occurred from northern coastal California, south to Mexico, and east to the Central Valley. Their current distribution is unknown. This species prefers grasslands and open woodlands with sparse vegetation and uses the vegetation and rocks as a means of cover while foraging on the ground. California horned larks feed on seeds, plant matter, insects, spiders, and snails during daylight hours. This species walks along the ground while feeding.

The breeding season for the California horned lark runs from March to July, with a peak in May. Nests are built in the open and are made up of grasses.

California horned larks are subject to predation by larger mammals (e.g., domestic and feral cats, bobcats, fox and coyotes) and snakes. They are also susceptible to human effects such as destruction or disruption of their nests, especially during the breeding season, and habitat destruction.

It is possible that the California horned lark could occur on the project site. This species prefers a variety of open space habitats, including agricultural fields that are not continually disturbed. No individuals or evidence of the California horned lark were observed during the field survey conducted by Live Oak Associates in February 2003.

## REGULATORY SETTING

### Federal, State and Regional Protection

Threatened and Endangered Species

State and federal "endangered species" legislation has provided the California Department of Fish and Game (CDFG) and the U.S. Fish and Wildlife Service (USFWS) with a mechanism for conserving and protecting plant and animal species of limited distribution and/or low or declining populations. Species listed as threatened or endangered under provisions of the state and federal endangered species acts, candidate species for such listing, state species of special concern, and some plants listed as endangered by the California Native Plant Society are collectively referred to as "species of special status." Permits may be required from CDFG and/or USFWS if activities associated with a proposed project will result in the "take" of a listed species. "Take" is defined by the state of California as "to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture or kill" (California Fish and Game Code, Section 86). "Take" is more broadly defined by the federal Endangered Species Act to include "harm" (16 USC, Section 1532(19), 50 CFR, Section 17.3). The burrowing owl and Swainson's hawk are both protected under the state act.

In addition, the CDFG and the USFWS are responding agencies under the California Environmental Quality Act (CEQA). Both agencies review CEQA documents in order to determine the adequacy of their treatment of endangered species issues and to make project-specific recommendations for their conservation.

Migratory Birds

Most birds are also protected by state and federal law. The federal Migratory Bird Treaty Act (MBTA: 16 U.S.C., sec. 703, Supp. I, 1989) prohibits killing, possessing, or trading in migratory birds, except in accordance with regulations prescribed by the Secretary of the Interior. This act encompasses whole birds, parts of birds, and bird nests and eggs. Both the burrowing owl and Swainson's hawk are protected under the MBTA.

Birds of Prey

Birds of prey are also protected in California under provisions of the state Fish and Game Code, Section 3503.5, 1992), which states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto." Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered "taking" by the CDFG. Both the burrowing owl and Swainson's hawk are protected under this provision of the Fish and Game Code.

San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP)

The project site is located within the area subject to the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP). The stated purpose of the SJMSCP is to provide a strategy for balancing conservation of open space and non-open space uses while providing for the long-term management of plant, fish and wildlife species, especially those that are currently listed, or may be listed in the future, under the Federal Endangered Species Act (ESA) or the California Endangered Species Act (CESA).

The SJMSCP was adopted in 2000 and resulted from the San Joaquin Council of Governments' efforts to develop a regional approach to managing the biological resources of the County. The planning process included participation from local governments, state and federal agencies, business groups and environmental organizations. The plan followed previous habitat conservation plans that had been developed for individual species, including the City of Stockton's 1990 plan for the Swainson's hawk, and San Joaquin County's 1993 plan for the San Joaquin kit fox. These were succeeded by the multi-species plan which was intended to result in a more comprehensive and effective approach to habitat conservation in the County.

The SJMSCP includes mitigation procedures for the loss of habitat and associated "take" of species listed in the Plan. The provisions of the SJMSCP are implemented by the individual local governments, including the City of Lodi. Mitigation of unavoidable impacts to species covered in the SJMSCP emphasizes compensation for habitat losses through the establishment, enhancement and management of habitat preserves, which are normally located outside of designated existing and planned urban boundaries. Acquisition of preserve lands is accomplished primarily through the purchase of conservation easements from willing sellers. As an alternative to the direct acquisition of conservation easements by project proponents, the Plan provides for the payment of in-lieu fees on a per-acre basis, based on the type of habitat that is to be converted to non-open space uses.

**Wetlands and Other "Jurisdictional Waters"**

Natural drainage channels and wetlands are considered "Waters of the United States" (hereafter referred to as "jurisdictional waters"). The filling or grading of such waters is regulated by the U.S. Army Corps of Engineers (USACE) by authority of Section 404 of the Clean Water Act. The extent of jurisdiction within drainage channels is defined by "ordinary high water marks" on opposing channel banks. Wetlands are habitats with soils which are intermittently or permanently saturated, or inundated. The resulting anaerobic conditions select for plant species known as hydrophytes, which show a high degree of fidelity to such soils. Wetlands are identified by the presence of hydrophytic vegetation, hydric soils (soils saturated intermittently or permanently saturated by water), and wetland hydrology according to methodologies outlined in the 1987 Corps of Engineers Wetlands Delineation Manual.

All activities involving the discharge of fill into jurisdictional waters are subject to the permit requirements of the USACE. Such permits are typically issued on the condition that the applicant agrees to provide mitigation, which results in no net loss of wetland functions or values. No permit can be issued until the Regional Water Quality Control Board (RWQCB) issues a certification (or waiver of such certification) that the proposed activity will meet state water quality standards.

Since there is no evidence that the on-site irrigation or drainage ditches replaced natural drainage channels, the Corps of Engineers would have no permit jurisdiction under Section 404 of the federal Clean Water Act for alteration or filling of the existing on-site ditches. Similarly, no water quality certification from the Regional Board would be required under the Clean Water Act

California Department of Fish and Game

The California Department of Fish and Game has jurisdiction over the bed and bank of natural drainages under Section 1601 through 1603 of the California Fish and Game Code. Activities potentially disturbing these drainages are regulated by the CDFG via a Streambed Alteration Permit. Such a permit typically includes conditions that certain measures will be implemented for the protection of the habitat values of the drainage in question. Since there is no evidence that the on-site irrigation or drainage ditches replaced natural drainage channels, and since there is no riparian vegetation or habitat associated with the ditches, no Streambed Alteration Permit would be required from CDFG for alteration or filling of the existing on-site ditches in conjunction with the project.

## General Plan

The following City of Lodi General Plan goal and policies on biological resources are relevant to the project:

***Section 7. Conservation Element***

Goal E: To protect sensitive native vegetation and wildlife habitats and fisheries resources.

Policy 3. New development shall be sited to maximize the protection of native tree species and sensitive plants and wildlife habitat.

Policy 4. The City shall encourage the use of native plant species for landscaping roadsides, parks, and urban developments.

Policy 5. The City shall require site-specific surveys to identify significant vegetation and wildlife habitat for development projects located in or near sensitive habitat areas.

Policy 6. The City shall support federal and state laws and policies preserving rare, threatened, and endangered species by ensuring that development does not adversely affect such species or by fully mitigating adverse effects consistent with the recommendations of the U.S. Fish and Wildlife Service and California Department of Fish and Game.

Policy 14. The City should work with the California Department of Fish and Game in identifying an area or areas suitable for Swainson's hawk and burrowing owl habitat; this land should be preserved or put into a mitigation land bank to mitigate impacts on existing habitat for these species. A mechanism should be established for developer funding of acquisition and management of lands in the mitigation bank.

Policy 15. The City shall manage portions of storm drainage detention ponds and drainage ponds and other appropriate areas as wildlife habitat.

## SIGNIFICANCE CRITERIA

For purposes of this EIR, the project would be considered to have a significant impact on biological resources if it would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.
- Have a substantial adverse effect on federally-protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- Conflict with the provisions of an adopted Habitat Conservation Plan, or other approved local, regional, or state habitat conservation plan.

## IMPACTS AND MITIGATION

**Impact E1.** **Loss of Habitat for Wildlife Species. The project would result in the loss of approximately 40 acres of ruderal habitat. (Less-than-Significant Impact)**

Ruderal habitat has low wildlife values and is relatively unimportant for local wildlife. Some species may disperse through the site, but most wildlife currently using the site do so as part of their normal movements for foraging, mating, and caring for young. In other words, the site falls within the wildlife's home range or territory. Individuals of the various amphibian, reptile, and small mammal species that presently occupy the site would be displaced or lost from the development areas. The loss of this habitat for common species of wildlife would represent a less-than-significant impact. Potential impacts to special-status species are discussed subsequently.

**Mitigation.** **No mitigation required.**

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**Impact E2.** **Interference with Movement of Native Wildlife. Development projects can interfere with the movement of wildlife through an area; however, the project site does not function as an animal movement corridor, and site development would not act as a substantial barrier to animal movement through the area. (Less-than-Significant Impact)**

As noted under 'Environmental Setting' above, no identified or known "animal corridor" presently exists on the site. As such, development of the project site will not create a barrier to animal movement or migration, nor would it will interfere with the functioning of such a corridor.

While development of the project site would convert some natural ruderal habitats to urban uses, it would not act as a "substantial" barrier for wildlife species that currently use these habitats. In other words, as with most open space parcels, wildlife will move through the site from time to time, and development of the site will not substantially alter the opportunities that local wildlife have to move regionally; therefore, this project's impact on the movement of native wildlife would be less than significant.

**Mitigation.** **No mitigation required.**

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**Impact E3.** **Loss of Habitat for Special Status Animals. The project would result in the loss of approximately 40 acres of foraging habitat for three protected bird species, and could result in the loss of breeding habitat for two protected bird species. (Significant Impact)**

Of the 23 special-status animal species that occur, or once occurred, regionally, 12 species are absent or unlikely to occur on the project site. Nine other species may rarely

or occasionally occur on site as foragers. These include five raptor, two songbird, and two bat species. The proposed project would have no effect on the breeding success of any of these species, and would only result (at most) in a small reduction of foraging and/or roosting habitat available to them regionally.

The three remaining species, the Swainson's hawk, burrowing owl, and California horned lark, are more likely to occur on the site. While the burrowing owl and California horned lark are currently absent from the site, they could breed on the site in the future. Swainson's hawk would not nest on or adjacent to the project site, but could occasionally forage on the site, based on the proximity of documented occurrences in the area (e.g., one mile south and 2.5 miles southwest). In addition, other raptors listed in the SJMSCP, including the white-tailed kite, northern harrier, merlin, prairie falcon, and golden eagle, may also forage on the project site.

**Mitigation E3. In accordance with the SJMSCP and City of Lodi requirements, the project proponent will pay the applicable in-lieu mitigation fees to compensate for loss of open space and habitat resulting from development of the project site, and will ensure the completion of preconstruction surveys for Swainson's hawks, burrowing owls, and California horned larks, as well as the implementation of specified measures if any of these species are found on the site.**

The in-lieu mitigation fees prescribed under the SJMSCP vary depending on the location of the site, its designation under the Plan, and annual adjustments. The project site is covered by two designations or pay zones under the Plan. The 20.5-acre eastern portion of the shopping center site, is designated "Multi-Purpose Open Space Lands," where in-lieu fees are currently $862 per acre (2004). The 19.5-acre western portion of the site, which includes the temporary stormwater basin, is designated "Agricultural Habitat and Natural Lands," where in-lieu fees are currently $1,724 per acre (2004).

The compliance with the provisions of the SJMSCP would fully mitigate the small reduction in foraging habitat resulting from development of the project site. Preconstruction surveys will also be required under the Plan for Swainson's hawks, burrowing owls, and California horned larks in order to determine whether these species have occupied the site since the time of the field surveys by Live Oak Associates in February 2003. The guidelines for the preconstruction surveys are described in Mitigation 4, along with the measures to be implemented if these any of these species are found on the site. Although these preconstruction guidelines are primarily intended for raptors, they would also apply to the California horned lark in this context.

**Significance after Mitigation. Less-than-Significant Impact.**

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**Impact E4. Disturbance of Nesting Burrowing Owls and Raptors. The project could adversely affect any burrowing owls that may occupy the site prior to construction, and could also adversely affect any tree-nesting raptors that may establish nests in trees along the project boundaries prior to construction. (Significant Impact)**

A few trees that could provide nesting habitat for more common raptors (e.g., red-tailed hawks and red-shouldered hawks) are found sparsely around the eastern and southern

boundaries of the project site and off-site. It is not expected that any of the special-status raptors listed in Table 1 would nest in any of these trees.

Suitable nesting habitat for burrowing owls in the form of California ground squirrel burrows is also available along the site boundaries. Additionally, construction activities that would harm or kill a burrowing owl during the non-breeding season, would also constitute a significant impact. While legal prohibitions also exist for harm to tree-nesting raptors, these birds are not subject to unintended harm or injury during the non-breeding season, as they roost in trees and can evacuate when threatened.

Although no nesting raptors were observed during the February 2003 field surveys, raptors could nest on or adjacent to the site prior to project development. If so, construction activities could result in the abandonment of active nests or direct mortality to these birds. Construction activities that adversely affect nesting (even off-site), or result in mortality of individual birds, would be a violation of state and federal law (see 'Regulatory Context' above).

**Mitigation E4. The following measures shall be implemented to ensure that raptors (hawks and owls) are not disturbed during the breeding season:**

- **If ground disturbance is to occur during the breeding season (February 1 to August 31), a qualified ornithologist shall conduct a pre-construction survey for nesting raptors (including both tree- and ground-nesting raptors) on site and within 250 feet of the site boundaries, within 30 days of the onset of ground disturbance. These surveys will be based on the accepted protocols (e.g., as for the burrowing owl) for the target species. If a nesting raptor is detected, then the ornithologist will, in consultation with CDFG, determine an appropriate ground disturbance-free zone (usually a minimum of 250 feet) around the tree that contains the nest or the burrow in which the owl is nesting. The actual size of the buffer would depend on species, topography, and type of construction activity that would occur in the vicinity of the nest. The setback area must be temporarily fenced, and construction equipment and workers shall not enter the enclosed setback area until the conclusion of the breeding season. Once the raptor abandons its nest and all young have fledged, construction can begin within the boundaries of the buffer.**
- **If ground disturbance is to occur during the non-breeding season (September 1 to January 31), a qualified ornithologist will conduct pre-construction surveys for burrowing owls only. (Pre-construction surveys during the non-breeding season are not necessary for tree nesting raptors since these species would be expected to abandon their nests voluntarily during construction.) If burrowing owls are detected during the non-breeding season, they can be passively relocated by placing one-way doors in the burrows and leaving them in place for a minimum of three days. Once it has been determined that owls have vacated the site, the burrows can be collapsed and ground disturbance can proceed.**

**Significance after Mitigation. Less-than-Significant Impact.**

# F. CULTURAL RESOURCES

This discussion is based on the cultural resources report prepared by Basin Research Associates in May 2004, which is contained in Appendix F.

## ENVIRONMENTAL SETTING

### Prehistoric Archaeology

The literature search by Basin Research revealed that there are no recorded prehistoric archaeological sites are located within the project site or adjacent areas. Likewise, no prehistoric materials were observed during the intensive field inventory of the project site conducted by Basin Research in February 2003. These findings of the archival research and field survey suggest that there is minimal potential for buried prehistoric archaeological resources to exist within or adjacent to the project site.

Basin Research contacted the Native American Heritage Commission (NAHC) about the project, and it responded that the Sacred Lands file record search failed to indicate the presence of Native American cultural resources in the immediate project area, although this does not necessarily indicate the absence of cultural resources. The California Valley Miwok Tribe was also contacted, and its representative indicated that the tribe has no issues with the project but requested to be kept apprised of any Miwok artifacts that might be found.

### Paleontological Resources

Paleontology is the science of forms of life existing in former geological periods, as represented by their fossils, and encompasses the study of vertebrate, invertebrate, and paleobotanical fossils. The surficial sediments of the project site are mapped as Recent (Holocene) and Pliestocene alluvial fan deposits of unknown depth. No vertebrate fossil localities are recorded at the project site based on records at the University of California Museum of Paleontology (UCMP) at Berkeley. Given the existence of post-Pliestocene sediments in the upper strata near the ground surface, the potential for paleontological resources to be encountered during project grading and excavation is low.

### Historic/Architectural Resources

The project site is completely vacant of buildings and structures, except for two agricultural wells and associated siphons. The field survey conducted by Basin Research in February 2003 found no evidence of any former structures or habitation on the ground surface, and concluded that there is minimal potential for historical archaeological resources to be present within or adjacent to the project site.

No historic or architecturally significant structures, landmarks, or points of interest have been recorded, reported, or identified within or adjacent to the project site. The nearest historic property is the Beckman Ranch House, a California Point of Historical Interest, which is located approximately one mile west of the project site on West Kettleman Lane at Ham Lane.

## REGULATORY SETTING

### General Plan

The following City of Lodi General Plan goal and policy on cultural resources are relevant to the project:

***Section 10. Urban Design and Cultural Resources Element***

Goal J: To preserve and enhance Lodi's historical heritage.

Policy 4. The City shall consult with the California Archaeological Inventory, Central Valley Information Center, at Stanislaus State University, on any project that could have an impact on cultural resources and implement the center's recommended mitigation measures.

## SIGNIFICANCE CRITERIA

For purposes of this EIR, the project would be considered to result in a significant impact to cultural resources if it would:

- Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5 of the State CEQA Guidelines.
- Cause a substantial adverse change in the significance of an archaeological resource as defined in Section 15064.5 of the State CEQA Guidelines.
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.
- Disturb any human remains, including those interred outside of formal cemeteries.

## IMPACTS AND MITIGATION

**Impact F1.** **Disturbance of Buried Cultural Resources. It is possible that previously undiscovered cultural materials may be buried on the site which could be adversely affected by grading and construction for the project. (Significant Impact)**

Significant prehistoric cultural resources are defined as human burials, features or other clusterings of finds made, modified or used by Native American peoples in the past. The prehistoric and protohistoric indicators of prior cultural occupation by Native Americans include artifacts and human bone, as well as soil discoloration, shell, animal bone, sandstone cobbles, ashy clays, and baked or vitrified clays. Prehistoric materials may include:

- Human bone - either isolated or intact burials.
- Habitation (occupation or ceremonial structures as interpreted from rock rings/features, distinct ground depressions, differences in compaction (e.g., house floors).

- Artifacts including chipped stone objects such as projectile points and bifaces; groundstone artifacts such as manos, metates, mortars, pestles, grinding stones, pitted hammerstones; and shell and bone artifacts including ornaments and beads.

- Various features and samples including hearths (fire-cracked rock, baked and vitrified clay), artifact caches, faunal and shellfish remains (which may permit dietary reconstruction), distinctive changes in soil stratigraphy indicative of prehistoric activities.

- Isolated artifacts.

Due to the absence of any evidence that any archaeological or paleontological resources are present at the site, the probability that such resources exist is very low. Therefore, no further archaeological or paleontological investigation is recommended prior to site grading. Likewise, no archaeological or paleontological monitoring is recommended during site grading and construction.

**Mitigation F1. Implementation of the following measures will mitigate any potential impacts to cultural resources.**

- **In the event that prehistoric or historic archaeological materials are exposed or discovered during site clearing, grading or subsurface construction, work within a 25-foot radius of the find shall be halted and a qualified professional archaeologist contacted for further review and recommendations. Potential recommendations could include evaluation, collection, recordation, and analysis of any significant cultural materials followed by a professional report.**

- **In the event that fossils are exposed during site clearing, grading or subsurface construction, work within a 25-foot radius of the find shall be halted and a qualified professional paleontologist contacted for further review and recommendations. Potential recommendations could include evaluation, collection, recordation, and analysis of any significant paleontological materials followed by a professional report.**

- **If human remains are discovered, the San Joaquin County Coroner shall be notified. The Coroner would determine whether or not the remains are Native American. If the Coroner determines that the remains are not subject to his authority, he will notify the Native American Heritage Commission, who would identify a most likely descendant to make recommendations to the land owner for dealing with the human remains and any associated grave goods, as provided in Public Resources Code Section 5097.98.**

**Significance after Mitigation. Less-than-Significant Impact.**

## G. AESTHETICS

### ENVIRONMENTAL SETTING

The project site is located at the western gateway of Lodi along State Route 12/Kettleman Lane, and as such is visually prominent to motorists entering and leaving Lodi.

From the principal off-site vantage points along Highway 12/Kettleman Lane and Lower Sacramento Road, the project site generally appears as a flat featureless agricultural field devoid of buildings or significant trees (see Figures 5A and 5B). As one travels eastward past Lower Sacramento Road, the scene changes from agricultural fields and vineyards to an urban scene dominated by commercial retail development. (See Section *II. A. Land Use and Planning* for a full description of land uses in the vicinity of the project site.)

The residential uses in the vicinity with direct views into the project site consist of four existing dwellings along the east side of Lower Sacramento Road, across from the project site. Some of the additional six dwellings along Olive Avenue in the same area may have partial views into the project. There are also two or three rural residential dwellings on the north side of Highway 12, west of the project site, which may have partial views into the project.

There are no designated scenic highways or routes in the project vicinity, nor are there any recognized scenic resources or vistas in the site area.

### REGULATORY SETTING

#### General Plan

The following City of Lodi General Plan goals and policies related to aesthetics are relevant to the project:

***Section 10. Urban Design and Cultural Resources Element***

Goal B: To establish identifiable, visually appealing, and memorable entrances to the City.

Policy 1. The City shall upgrade the principal roads entering the City at strategic entry points through landscaping, signage, light standards, and other physical elements that identify and enhance them as gateways to the community. Entry points should be identified and designated on SR 99; SR 12; Kettleman Lane; Lodi Avenue; Lower Sacramento Road; Pine Street; Turner Road, and Hutchins Street.

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Goal C: To maintain and enhance the aesthetic quality of major streets and public/civic areas.

Policy 1. The City shall develop special design standards to upgrade roadways, including SR 12 and SR 99. Such standards shall include provisions for setbacks, signs, landscaping, parking, and upgrading commercial development along these streets, and screening of visually unattractive commercial and industrial uses.

## Design Standards for Large Retail Establishments

The project is subject to the Design Standards for Large Retail Establishments, which was adopted by City Council on April 7, 2004. The purpose of the Design Standards is to supplement the existing City zoning and design review requirements by providing clear and enforceable standards to mitigate visual impacts associated with large-scale retail development. The issues addressed in the Standards include: site layout, architectural design and detailing; minimum and maximum parking spaces; lighting and landscaping of parking areas; screening of loading and outdoor storage areas; and pedestrian and bicycle access and circulation. In addition to visual mitigation, the objective of the Standards is to enhance visual quality of development by promoting architectural features and patterns that provide visual interest at the scale of the pedestrian, that reduce massive aesthetic effects, and that recognize local character. The Standards are initially implemented through staff review of project applications and ultimately through the formal design review process of the City's Site Plan and Architectural Review Committee (SPARC).

### SIGNIFICANCE CRITERIA

For purposes of this EIR, the project would be considered to have a significant aesthetic impact if it would:

- Have a substantial adverse effect on a scenic vista.
- Substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.
- Substantially degrade the existing visual character or quality of the site and its surroundings.
- Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

### IMPACTS AND MITIGATION

**Impact G1.** **Visual Change Resulting from Project. The project would result in a substantial change in the visual character of the site; however, this would not represent a significant adverse visual impact. (Less-than-Significant Impact)**

The project would alter the rural open space character of the site to one which is essentially urban and commercial in nature. However, the impact of this change is substantially diminished given the presence of existing urban land uses and heavily used transportation corridors adjacent to the site. The project site is across the street from existing retail commercial development to the east and northeast, and a developing shopping center directly to the north. These urban-intensity land uses have already degraded the rural scenic quality of the project setting. Therefore, the project would not have the visual effect associated with intrusion of new urbanization into an area characterized by pristine rural open space.

In addition to travelers viewing the site along Highway 12/Kettleman Lane and Lower Sacramento Road, the existing residents on the east side of Lower Sacramento Road would be subject to substantial alteration of their visual setting. The view from the fronts of these dwellings would change from one where fallow fields are the primary element into views dominated by a commercial retail center. However, this effect would be primarily limited to the four existing residences fronting onto Lower Sacramento Road, and to a lesser extent

those dwellings along Olive Avenue with partial views into the site. The two or three rural residences across Highway 12 to the northwest, which have oblique views into the site, would also undergo a change in their visual setting.

The visual effect upon these nearby dwellings would be reduced by the extensive berming and landscaping to be installed along the project frontage and throughout the parking areas. In addition, the implementation of the City's new Design Standards for Large Retail Establishments will effectively enhance visual quality of the project by promoting architectural features and patterns that provide visual interest at the scale of the pedestrian, that reduce massive aesthetic effects, and that recognize local character. In addition, no pylon signs are planned in the vicinity of the existing residences, and the project lighting will be designed such that no direct illumination would reach these dwellings. Thus, while the existing residences will be subject to a substantial change in setting, the project will not result in a significant adverse visual impact to those dwellings.

**Mitigation.** **No mitigation required.**

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**Impact G2.** **Lighting and Glare. Lighting for the project buildings, parking lot, and loading areas could produce light and glare at off-site locations; however, this would be avoided by implementation of the City's lighting requirements. (Less-than-Significant Impact)**

The project will require full-coverage lighting throughout the parking areas, and lighting to illuminate buildings and signage. Potentially sensitive receptors to unwanted illumination and glare from the project include the existing residences on the east side of Lower Sacramento Road and north of Highway 12, as well as motorists using these roadways.

The project lighting would be sufficiently bright for security and safety purposes, but would avoid direct illumination of off-site locations. This would be accomplished through the use of recessed fixtures and cut-off shields on light standards and light fixtures on buildings to block direct illumination beyond the project boundaries. In accordance with City requirements, lighting plans would be submitted for review by the Site Plan and Architectural Review Committee demonstrating that no direct light would spill over beyond the exterior boundaries of the shopping center.

With the large numbers of vehicles that would park and circulate through the shopping center, there is a potential for daytime glare from reflected sunlight off car windshields. There is also a potential for nighttime intrusion of headlight glare from vehicles parked along the southeast boundary and facing toward the existing dwellings, as well as motorists using the adjacent roadways. Both of these effects would be minimized through the extensive landscaping to be installed along the project perimeter and throughout the parking areas. Along the project roadway frontages, a combination of berms and shrubbery is proposed for continuous screening of headlight glare from vehicles parked along the site perimeter or moving through the fast-food drive-thru lanes.

In summary, the design features proposed for the project would effectively minimize illumination of adjacent properties and reduce glare. Therefore, the potential lighting and glare impacts associated with the project would be less-than-significant.

**Mitigation.** **No mitigation required.**

## H. TRAFFIC AND CIRCULATION

The following is a summary of the traffic impact analysis prepared on the Lodi Shopping Center project by Fehr & Peers Associates in July 2004. The traffic report is contained in Appendix G of this EIR.

### ENVIRONMENTAL SETTING

#### Existing Roadway System

The project site is served by a circulation system comprised of regional highways, arterials and collector streets, which are illustrated in Figure 9. The main roadways serving the project site are discussed below.

Interstate 5 (I-5) is a north-south interstate freeway that extends from Southern California into Oregon and Washington. I-5 has six lanes in the immediate vicinity of the project site and four lanes north of State Route 12. Access to and from I-5 in the study area is provided by the State Route 12 interchange.

West Kettleman Lane / State Route 12 (SR 12) is a state highway located immediately north of the project site that extends west toward Interstate 5, Rio Vista, and Fairfield. The I-5/SR 12 interchange consists of northbound and southbound diagonal ramps and a southbound loop on-ramp. SR 12 has two lanes in each direction from Thornton Road to west of I-5 and one lane in each direction further west. SR 12 extends eastward for a distance of about five miles to Lodi and on to State Route 99. SR 12 has one lane in each direction with turn pockets at major intersections between Thornton Road and Lower Sacramento Road. East of Lower Sacramento Road, SR 12 / West Kettleman Lane widens to provide two eastbound lanes and one westbound lane (and a two-way left-turn lane) as it extends past South Mills Avenue.

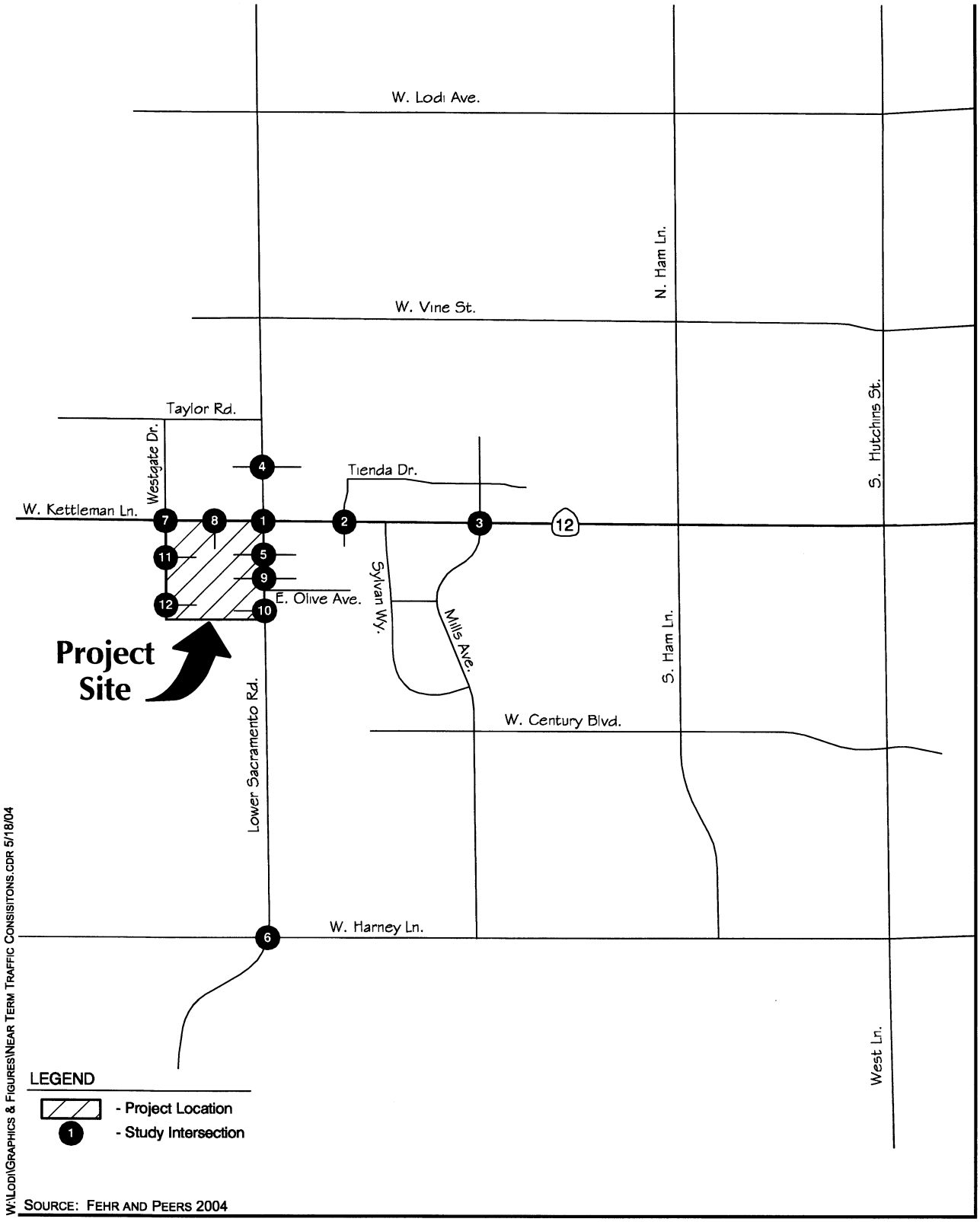
Lower Sacramento Road is a north-south roadway located immediately east of the project site. North of Kettleman Lane, Lower Sacramento Road consists of four lanes (two lanes in each direction), a raised median, and left-turn lanes at major intersections. This roadway narrows to a two-lane undivided facility south of Kettleman Lane.

Tienda Drive is a two-lane roadway that extends northward from Kettleman Lane and turns eastward to South Mills Avenue where it provides access to commercial-retail development. East of South Mills Avenue, Tienda Drive becomes a two-lane residential street.

Mills Avenue is a north-south roadway that extends from Turner Road to Harney Lane. North of Kettleman Lane, Mills Avenue is two lanes wide and provides access to residential neighborhoods. South of Kettleman Lane, Mills Avenue has a raised median and provides access to residential and commercial uses.

Harney Lane is an east-west roadway located south of the project site. Harney Lane extends east toward SR 99 and west toward I-5. Harney Lane is a two-lane road in the vicinity of the project site.

West Century Boulevard is a two-lane east-west roadway that extends westward from South Church Street and terminates just west of Mills Avenue. West Century Boulevard is planned to be extended




NOT TO SCALE

FIGURE 9A

STUDY INTERSECTIONS - NEAR-TERM/PROJECT CONDITIONS



PMC
PACIFIC MUNICIPAL CONSULTANTS

westward past Lower Sacramento Road and connect with the future southern extension of Westgate Drive.

Westgate Drive is a planned two-lane north-south roadway that will extend southward from Lodi Avenue to Harney Lane. The section of Westgate Drive from W. Kettleman Lane to Taylor Road that forms the west frontage of the Vintner's Square Project is being constructed in conjunction with the Vintner's Square Project, with a signalized intersection at W. Kettleman Lane / Westgate Drive. The proposed project would construct the section of Westgate Drive south of W. Kettleman Lane that forms the west frontage of the Lodi Shopping Center Project and add the fourth leg to the signalized intersection at Kettleman Lane.

**Intersection Level of Service Operations**

The intersections of the study roadways are a key component of the roadway system. These are the "nodes" that connect each segment of the system. Intersections are usually the critical elements of the roadway system in assuring adequate capacity, minimizing delays, maximizing safety, and minimizing level of service impacts. Therefore, the analysis of project impacts on the roadway system focuses on intersection operations.

The operating condition of an intersection is typically described in terms of "Level of Service" (LOS, which is a quantitative measurement of the effect of various factors on traffic operating conditions, including travel speed, travel time, delay, freedom to maneuver, safety, driving comfort, and convenience. LOS is measured on a qualitative scale ranging from LOS A (the best) to LOS F (the worst). Empirical LOS criteria and methods of calculation have been developed by the Transportation Research Board (TRB) and are documented in the *2000 Highway Capacity Manual (HCM)*. These LOS definitions and calculation methods are the prevailing measurement standard used throughout the United States and are used in this study. The use of the 2000 HCM methodology is consistent with Caltrans guidelines.

The LOS at signalized and all-way STOP-controlled intersections is based on the average control delay for all vehicles passing through the intersection. The 2000 HCM specifies that the LOS for minor-street STOP-controlled intersections be based on the delay for vehicles on the minor-street approach only. Table 2 shows the average control delay range for each LOS category for signalized and unsignalized intersections.

**Existing Conditions**

The following six intersections were studied to establish existing level of service conditions in the vicinity of the project site:

1) West Kettleman Lane (SR 12) / Lower Sacramento Road
2) West Kettleman Lane / Tienda Drive
3) West Kettleman Lane / Mills Avenue
4) Lower Sacramento Road / Safeway Driveway
5) Lower Sacramento Road / Middle Food 4 Less Driveway
6) Lower Sacramento Road / Harney Lane

**TABLE 2**

**INTERSECTION LEVEL OF SERVICE (LOS) CRITERIA**

| | Unsignalized Intersections | | Signalized Intersections | |
|---|---|---|---|---|
| LOS | Description | Average Delay (sec/veh) | Description | Average Delay (sec/veh) |
| A | Little or no conflicting traffic for minor street approach. | ≤ 10.0 | Uncongested operations; all queues clear in a single cycle. | ≤ 10.0 |
| B | Minor street approach begins to notice presence of available gaps. | 10.1 – 15.0 | Very light congestion; an occasional phase is fully utilized. | 10.1 – 20.0 |
| C | Minor street approach begins experiencing delay while waiting for available gaps. | 15.1 – 25.0 | Light congestion; occasional queues on approaches. | 20.1 – 35.0 |
| D | Minor street approach experiences queuing due to a reduction in available gaps. | 25.1 – 35.0 | Significant congestion on critical approaches, but intersection is functional. | 35.1 – 55.0 |
| E | Extensive minor street queuing due to insufficient gaps. | 35.1 – 50.0 | Severe congestion with some longstanding queues on critical approaches. | 55.1 - 80.0 |
| F | Insufficient gaps of suitable size to allow minor street traffic to safely cross through major traffic stream. | > 50.0 | Total breakdown, stop-and-go operation. | > 80.0 |

Source: *2000 Highway Capacity Manual* (Transportation Research Board)

The three West Kettleman Lane intersections and the Lower Sacramento Road / Safeway Driveway intersection are signalized. The Lower Sacramento Road/Food 4 Less Driveway intersection is STOP controlled on the minor-street approach, and the intersection of Lower Sacramento Road and Harney Lane is all-way stop controlled.

Table 3 shows the existing a.m. and p.m. peak hour average delay and level of service at each study intersection. The level of service for minor-street STOP-controlled intersections is determined by the STOP-controlled approach with greater delay (in cases where the intersection features two minor streets). This table also displays the results of a traffic signal warrant analysis of each unsignalized study intersection. For each intersection, the eight (8) Signal Warrants identified in the MUTCD 2003 California Supplement were evaluated for the unsignalized intersections within the project study area. The Peak Hour Volume Warrant is met at an intersection when certain predetermined traffic volume and delay thresholds are met.

**TABLE 3**

**EXISTING INTERSECTION LEVEL OF SERVICE (AM AND PM PEAK HOUR)**

| # | Intersection | Traffic Control | Peak Hour | Average Control Delay | Level of Service | Traffic Signal Warrants Met? |
|---|---|---|---|---|---|---|
| 1 | West Kettleman Lane (SR 12) / Lower Sacramento Road | Traffic Signal | AM<br>PM | 20.8<br>26.7 | C<br>C | Not Applicable |
| 2 | West Kettleman Lane / Tienda Drive | Traffic Signal | AM<br>PM | 20.0<br>29.9 | B<br>C | Not Applicable |
| 3 | West Kettleman Lane / Mills Avenue | Traffic Signal | AM<br>PM | 24.3<br>33.8 | C<br>C | Not Applicable |
| 4 | Lower Sacramento Road / Safeway Driveway | Traffic Signal | AM<br>PM | 10.2<br>11.6 | B<br>B | Not Applicable |
| 5 | Lower Sacramento Road / Food 4 Less Driveway | Minor-Street STOP | AM<br>PM | 28.6<br>**> 50** | D<br>**F** | None<br>Warrants Are Met |
| 6 | Lower Sacramento Road / Harney Lane | All-Way STOP | AM<br>PM | **> 50**<br>**> 50** | **F**<br>**F** | Four Hour Volume,<br>Peak Hour Volume |

Notes: For intersections with all-way STOP-control or a traffic signal, average delay is for all vehicles entering the intersection.
For intersections with minor-street stop-control, average delay is for vehicles on the minor-street approach only.

Source: Fehr & Peers Associates.

Table 3 shows that the four signalized study intersection all operate at LOS C conditions or better for both a.m. and p.m. peak hour conditions. In addition, Table 3 shows that the all-way STOP-controlled intersection of Lower Sacramento Road / Harney Lane operates at LOS F conditions and meets the Four Hour Volume and Peak Hour Volume warrants for both a.m. and p.m. peak hour conditions.

**Transit System**

The Lodi Grapeline provides transit service in the City of Lodi, and the San Joaquin Regional Transit District provides transit service within the City of Stockton and unincorporated San Joaquin County. Both providers offer Fixed-Route and Dial-A-Ride services. Regional transit service between Lodi, Galt, and Sacramento is provided by South Sacramento County Transit (SCT Link).

The Lodi Grapeline operates five local and three express bus routes within the City of Lodi. Grapeline Routes 1 and 2 provide service to the commercial developments on both sides of Kettleman Lane just east of Lower Sacramento Road. San Joaquin Bus Routes 23 and 93 provide service from Stockton to the Lodi Transportation Station and operate on Lower Sacramento Road and Kettleman Lane past the project site to the south and west, respectively.

**Bicycle and Pedestrian System**

Bicycle facilities comprise bike paths (Class I facilities), bike lanes (Class II facilities), and bike routes (Class III facilities). Bike paths are paved trails that are separated from the roadways. Bike lanes are lanes on roadways designated for use by bicycles by striping, pavement legends, and signs. Bike routes are roadways that are designated for bicycle use with signs but have no designated lanes.

Bicycle lanes are provided on Lower Sacramento Road north of Kettleman Lane, Kettleman Lane east of Lower Sacramento Road, West Century Boulevard east of Sage Way, and Mills Avenue. Future bicycle lanes are planned on Lower Sacramento Road from Kettleman Lane to Harney Lane, and West Century Boulevard from Lower Sacramento Road to Sage Way.

Pedestrian facilities comprise sidewalks, pedestrian paths, crosswalks, pedestrian signals, and other pedestrian amenities. There are no existing sidewalks on the segments of Kettleman Lane and Lower Sacramento Road along the frontage of the project site. Sidewalks are provided on both sides of Kettleman Lane between Lower Sacramento Road and Tienda Drive. East of Tienda Drive, discontinuous sidewalks are provided on the north side of Kettleman Lane. As part of the Kettleman lane Gap Closure Project, continuous sidewalks will be constructed on the north side of Kettleman Lane between Tienda Drive and Ham Lane. Sidewalks are provided on the east side of Lower Sacramento Road from Food 4 Less to north of its intersection with the Safeway driveway. Crosswalks and pedestrian signals with push buttons are provided at all signalized study intersections.

## REGULATORY SETTING

### General Plan

The following City of Lodi General Plan goals and policies related to traffic and circulation are relevant to the project:

***Section 3. Circulation Element***

Goal A: To provide for a circulation system that accommodates existing and proposed land uses and provides for the efficient movement of people, goods, and services within and through Lodi.

Policy 1. The City shall strive to maintain Level of Service C on local streets and at intersections. The acceptable level of service goal will be consistent with the financial resources available and the limits of technical feasibility.

Policy 2. The City shall time the construction of new development such that the time frame for completion of the needed circulation improvements will not cause the level of service goals to be exceeded.

Policy 4. The City shall require dedication, widening, extension, and construction of public streets in accordance with the City's street standards. Major street improvements shall be completed as abutting land develop or redevelop. In currently developed areas, the City

may determine that improvements necessary to meet City standards are either infeasible or undesirable.

Policy 5. The City shall review new developments for consistency with the General Plan Circulation Element and the capital improvements program. Those developments found to be consistent with the Circulation Element shall be required to pay their fair share of traffic impact fees and/or charges. Those developments found to be generating more traffic than assumed in the Circulation Element shall be required to a prepare site-specific traffic study and fund needed improvements not identified in the capital improvements program, in addition to paying their fair share of the traffic impact fee and/or charges.

Policy 7. The City shall require that public and private street design and new development access meet applicable City street standards and minimize accident hazards.

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Goal B: To ensure the adequate provision of both on-street and off-street parking.

Policy 1. The City shall require new developments to provide an adequate number of off-street parking spaces in accordance with City parking standards. These parking standards should be periodically reviewed and updated.

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Goal C: To encourage use of transit where feasible.

Policy 1. The City shall continue to provide Dial-A-Ride services to local, transit-dependent residents.

Policy 2. The City shall provide information to local residents on transit services available for regional trips (such as Greyhound).

Policy 3. The City shall consider expanding its transit service to include limited fixed-route services if sufficient demand exists and if the cost is economically feasible..

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Goal D: To provide for a safe and convenient pedestrian circulation system.

Policy 1. The City shall require sidewalks for all developments in accordance with City design standards and encourage additional pedestrian access where applicable.

Goal E: To encourage the use of bicycles as an alternative mode of transportation.

Policy 1. The City shall encourage new commercial developments to provide bicycle racks.

## SIGNIFICANCE CRITERIA

For purposes of this EIR, the project would be considered to result in a significant traffic and circulation impact if it would:

Roadways

- Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections).

As noted above, Goal A, Policy 1 of the City's General Plan Circulation Element states: "The City shall strive to maintain Level of Service C on local streets and at intersections. The acceptable level of service goal will be consistent with the financial resources available and the limits of technical feasibility." Based on a determination by City staff in conjunction with the Vintner's Square Shopping Center EIR (certified May 2003), West Kettleman Lane and Lower Sacramento Road are not considered to be "local streets." Rather, they are considered to be major arterial/highways providing regional east-west and north-south access between the City of Lodi and San Joaquin County. (Vintner's Square Draft EIR, p. 3.2-11.)

According to Caltrans' guidelines: "Caltrans endeavors to maintain a target LOS at the transition between LOS C and LOS D on State Highway facilities; however, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS." (Vintner's Square Draft EIR, p. 3.2-11.)

Based on meeting with Caltrans and the City of Lodi staff regarding the Vintner's Square Shopping Center project, a finding of LOS D along these major routes would not be considered significant given cumulative build-out of the City of Lodi General Plan and San Joaquin County General Plan. (Vintner's Square Draft EIR, p. 3.2-11.)

Transit Facilities

- Create the demand for public transit service above that which is provided, or planned to be provided;
- Disrupt or interfere with existing or planned public transit services or facilities; or
- Create an inconsistency with policies concerning transit systems set forth in the General Plan for the City of Lodi.

Bicycle and Pedestrian Facilities

- Disrupt or interfere with existing or planned bicycle or pedestrian facilities;
- Create an unmet need for bicycle or pedestrian facilities; or
- Create an inconsistency with policies related to bicycle or pedestrian systems in the General Plan of the City of Lodi.

Parking

- Result in inadequate parking capacity.

## TRAFFIC IMPACT ANALYSIS

The following is a detailed analysis and discussion of potential project impacts on the roadway system, based on the Fehr & Peers report in Appendix G. This discussion is followed by the enumeration of specific project impacts upon the transportation system, along with corresponding mitigation measures as appropriate.

### Near Term (Existing plus Approved) Conditions

Near Term conditions represent traffic conditions prior to completion of the proposed development. Traffic volumes for Near Term Conditions comprise volumes from existing traffic counts plus traffic generated by approved, but not yet constructed, developments in the area. The list of approved developments is contained in Table 12 in Section *III. Cumulative Impacts*, and was developed based on input from City staff.

#### *Approved Projects*

The traffic associated with the approved developments was obtained from traffic reports prepared or estimated based on trip generation rates published in the Institute of Transportation Engineers *Trip Generation* (7th edition). The trips associated with each development were then assigned to the roadway network based on the relative locations of complementary land uses and existing travel patterns through the project study area.

#### *Near Term Circulation Improvements*

Under Near Term Conditions, the following roadway improvement projects are assumed to be completed:

Kettleman Lane Gap Closure Project

The planned Kettleman Lane Gap Closure Project involves the widening of Kettleman Lane between Tienda Drive and Ham Lane to add an additional westbound through lane and a raised median island. This project is estimated to be completed by the end of 2004. This project would change the lane configurations at the following intersections:

*West Kettleman Lane / Tienda Drive* – A second westbound left-turn lane will be added. The eastbound right-turn pocket will be converted into a shared through/right-turn lane. The northbound lane configurations will consist of a shared left-turn/through lane and an exclusive right-turn lane.

West *Kettleman Lane / Mills Avenue* – A second westbound through lane will be added.

Vintner's Square Roadway Improvements

The following improvements will be constructed with development of the approved Vintner's Square Shopping Center located on the northwest corner of West Kettleman Lane / Lower Sacramento Road:

*Lower Sacramento Road / Safeway - Vintner's Square Driveways* – The eastbound leg of this intersection would be constructed to provide one shared left-turn/through lane and one right-turn lane. The southbound through lane would be converted into a shared through/right-turn lane. The westbound approach would be modified to provide a shared left-turn/through lane and one right-turn lane.

*West Kettleman Lane / Lower Sacramento Road* – A southbound right-turn pocket that extends back approximately 250 feet to the southernmost Vintner's Square driveway will be constructed.

*West Kettleman Lane / Westgate Drive* – Westgate Drive will be constructed as a two-lane roadway between Taylor Road and Kettleman Lane on Vintner's Square's west frontage site boundary. Westgate Drive will form a signalized T-intersection with West Kettleman Lane. One left-turn lane and two through lanes will be provided on eastbound West Kettleman Lane. One left-turn and one right-turn lane will be provided on the southbound approach.

**Near Term Intersection Operations**

Table 4 presents the intersection operations under Existing and Near Term Conditions, and shows that the addition of the 19 approved projects and the planned circulation improvements identified above will result in all four signalized study intersections to continue to operate at LOS C conditions or better during both a.m. and p.m. peak hours. The new signalized T-intersection of West Kettleman Lane / Westgate Drive is also projected to operate at LOS C conditions during both a.m. and p.m. peak hours.

Table 4 shows that with the addition of approved projects, the all-way STOP-controlled intersection of Lower Sacramento Road / Harney Lane will continue to operate at LOS F conditions and meets the Four-Hour Vehicular Volume and Peak Hour Volume warrants for both a.m. and p.m. peak hour conditions. Approved projects are estimated to add 193 a.m. peak hour and 265 p.m. peak hour trips to the Lower Sacramento Road / Harney Lane intersection.

***Project Access Alternatives***

For purposes of this analysis, two alternative configurations for providing vehicular access to the project site were evaluated, as described below. (See the full traffic report in Appendix G for a diagram showing the access configurations.)

Access Alternative A

Under this alternative, access to the proposed project would be provided via the following access points:

1) One full access signalized intersection on Lower Sacramento Road (Study Intersection # 9);

2) Two right-turn in / right-turn out driveways on Lower Sacramento Road (Study Intersections # 5 and # 10);

3) A right-turn in / right-turn out driveway on Kettleman Lane (Study Intersection # 8);

4) A full access driveway on Westgate Drive (Study Intersection # 11);

5) A right-turn in / right-turn out driveway on Westgate Drive (Study Intersection # 12);

Under this alternative, a 90-foot southbound left-turn pocket into the existing Food 4 Less site located on the east side of Lower Sacramento Road would be provided opposite both Project Driveway # 1 (signalized) and Project Driveway # 2 (unsignalized).

Access Alternative B

The primary difference between Access Alternative A and B is that a 120-foot northbound left-turn lane at Project Driveway # 2 (unsignalized) would be provided. All other access points would be the same as in Access Alternative A.

**TABLE 4**

**EXISTING PLUS NEAR TERM INTERSECTION LEVEL OF SERVICE (AM AND PM PEAK HOUR)**

| # | Intersection | Traffic Control | Peak Hour | Existing Conditions | | Near Term Conditions | |
|---|---|---|---|---|---|---|---|
| | | | | Average Control Delay | LOS | Average Control Delay | LOS |
| 1 | SR 12/W.Kettleman Ln./ Lower Sacramento Rd | Traffic Signal | AM<br>PM | 20.8<br>26.7 | C<br>C | 22.5<br>30.2 | C<br>C |
| 2 | W. Kettleman Ln./ Tienda Dr. | Traffic Signal | AM<br>PM | 20.0<br>29.9 | B<br>C | 17.4<br>26.0 | B<br>C |
| 3 | W. Kettleman Ln./ Mills Ave. | Traffic Signal | AM<br>PM | 24.3<br>33.8 | C<br>C | 22.6<br>26.6 | C<br>C |
| 4 | Lower Sacramento Rd./ Safeway Dwy. | Traffic Signal | AM<br>PM | 10.2<br>11.6 | B<br>B | 14.3<br>17.9 | B<br>B |
| 5 | Lower Sacramento Rd./ Project Dwy. #1 (Middle Food 4 Less Dwy.) | Minor-Street STOP | AM<br>PM | 28.6<br>**> 50** | D<br>**F** | 40.7<br>**> 50** | E<br>F |
| 6 | Lower Sacramento Rd./ Harney Ln. | All-Way STOP | AM<br>PM | **> 50**<br>**> 50** | **F**<br>**F** | **> 50**<br>**> 50** | **F**<br>**F** |
| 7 | W. Kettleman Ln./ Westgate Ave. | Traffic Signal | AM<br>PM | Not Applicable | | 21.6<br>24.7 | C<br>C |

Notes: LOS = Level of Service.
For intersections with all-way STOP-control or a traffic signal, average delay is for all vehicles entering the intersection.
For intersections with minor-street STOP-control, average delay is for vehicles on the minor-street approach only.

Source: Fehr & Peers Associates, 2004.

**Trip Generation**

The amount of traffic generated by the proposed project was estimated using appropriate trip generation rates from *Trip Generation* (Institute of Transportation Engineers, 7th Edition, 2003) for the various commercial land uses proposed for the project. Trip generation rates for "Free Standing Discount Store", "Shopping Center," "Fast Food Restaurant with Drive Through," "High Turnover Sit Down Restaurant," "Pharmacy with Drive Through," and "Walk In Bank" land uses were applied to the floor areas of the appropriate building pads.

For the proposed Wal-Mart, Land Use Category 815 "Free Standing Discount Store" was used to estimate the trip generating characteristics for both a.m. and p.m. peak hour conditions. The discount stores that were surveyed across the United States are described as free-standing stores with off-street parking. They usually offer a variety of customer services, centralized cashiering and a wide range of products. They typically maintain long hours seven (7) days a week.

Table 5 presents the trip generation estimates for the proposed project. The trip generation estimates also accounted for pass-by trips. Pass-by trips are trips to the site made by vehicles already traveling by the site on the adjacent street (i.e., these vehicles make an interim stop between their primary origin and destination). Pass-by reductions for each land use are noted in Table 5. Pass-by trips are included in the analysis of traffic that enters and exits the project site, but are not considered "new" trips added to the street system by the project.

The project is estimated to generate 23,843 net new daily trips, 682 net new AM peak-hour trips (394 inbound and 682 outbound), and 1,494 net new PM peak-hour trips (756 inbound and 738 outbound).

***Trip Distribution and Assignment***

The expected distribution of project trips was based on San Joaquin Council of Governments (SJCOG) Existing Year 2000 Travel Demand Model and existing travel patterns through the study area. The net new peak-hour trips generated by the proposed project were then assigned to the roadway system based on the trip distribution pattern established. (See the traffic report in Appendix G for detailed discussion and illustrations.)

***Planned Near Term Plus Project Circulation Improvements***

The proposed project will incorporate the following changes to the roadway system along the project's frontage:

*West Kettleman Lane / Westgate Drive* – Construct Westgate Drive as a two-lane roadway along the project's western boundary. This roadway would form the south leg of the West Kettleman Lane / Westgate Drive signalized intersection. The lane configuration at the Westgate Drive / Kettleman Lane intersection would consist of one left-turn lane, one through lane, and one right-turn lane on the northbound and southbound approaches. The eastbound approach would consist of one left-turn lane, one through lane, and one shared through-right-turn lane. The westbound approach would contain one left-turn lane, two through lanes, and one right-turn lane.

## TABLE 5

## TRIP GENERATION ESTIMATES – LODI SHOPPING CENTER

| Land Use | Size (ksf) | Daily | | A.M. Peak Hour | | | | P.M. Peak Hour | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Rate | Trips | Rate | In | Out | Total Trips | Rate | In | Out | Total Trips |
| Wal-Mart | 226.868 | 56.02 | 12,709 | 0.84 | 130 | 61 | 191 | 5.06 | 574 | 574 | 1,148 |
| Less Pass-by (17% PM) | | | | | | | | | (99) | (99) | (198) |
| Retail[1] | 75.96 | 42.94 | 3,262 | 1.03 | 46 | 31 | 77 | 3.75 | 137 | 149 | 286 |
| Less Pass-by (34% PM) | | | | | | | | | (53) | (53) | (106) |
| Fast Food Restaurant[2] | 9.69 | 496.12 | 4,807 | 53.11 | 262 | 252 | 514 | 34.64 | 175 | 161 | 336 |
| Less Pass-by (49%AM, 51% PM) | | | | | (123) | (123) | (246) | | (85) | (85) | (170) |
| High Turnover Restaurant[3] | 7.5 | 127.15 | 954 | 11.52 | 45 | 41 | 86 | 10.92 | 50 | 32 | 82 |
| Less Pass-by (43% PM) | | | | | | | | | (18) | (18) | (36) |
| Pharmacy[4] | 14.788 | 88.16 | 1,304 | 2.66 | 22 | 17 | 39 | 8.62 | 62 | 65 | 127 |
| Less Pass-by (49% PM) | | | | | | | | | (32) | (32) | (64) |
| Bank[5] | 5.16 | 156.48 | 807 | 4.07 | 12 | 9 | 21 | 33.15 | 86 | 85 | 171 |
| Less Pass-by (47% PM) | | | | | | | | | (41) | (41) | (82) |
| Total Gross Trips | | | 23,843 | | 517 | 411 | 928 | | 1,084 | 1,066 | 2,150 |
| Total Pass-by Trips | | | | | (123) | (123) | (246) | | (328) | (328) | (656) |
| Net New Trips | | | 23,843 | | 394 | 288 | 682 | | 756 | 738 | 1,494 |

Notes: [1] Retail uses assumed for parcels 2, 4 (5,000 single-family), 8, 9, 10, 11, and12.

[2] Fast food restaurant use assumed for parcels 1, 3, and 4 (3,000 single-family).

[3] High turnover restaurant use assumed for parcel 5.

[4] Pharmacy use assumed for parcel 6.

[5] Bank use assumed for parcel 7.

Source: Fehr & Peers Associates.

*Westgate Drive Project Driveways* - Add two project driveways on the extension of Westgate Drive. The northern Westgate Drive driveway would be located approximately 340 feet south of Kettleman Lane and provide full access (left and right-turns in and out) to the project site. The lane configuration for this intersection is one shared through/right-turn lane for the northbound approach, one left-turn lane and one through lane for the southbound approach, and one shared left and right-turn lane for the westbound approach. The southern Westgate Drive driveway is located 800 feet south of Kettleman Lane and will be limited to right-turns in and out only.

*West Kettleman Lane Project Driveway* - Add one project driveway on West Kettleman Lane located approximately 600 feet west of Lower Sacramento Road and provide right-turns in / right-turns out of the project site. Three eastbound through lanes and a 200 foot right-turn lane would be provided in the eastbound approach. A 285-foot right-turn lane will be provided in the northbound approach.

*West Kettleman Lane / Lower Sacramento Road* - West Kettleman Lane would be widened eastbound from Westgate Drive to Lower Sacramento Road to provide three eastbound through lanes, dual left-turn lanes, and a 200 foot right turn lane.

*Lower Sacramento Road* - Lower Sacramento Road would be widened southbound from West Kettleman Lane to the signalized project driveway located approximately 650 feet south of West Kettleman Lane. At the middle (unsignalized) project driveway (study intersection # 5), two access alternatives were considered, as discussed above. Access Alternative A would include a dedicated 100-foot southbound right turn lane and a 90-foot southbound left-turn lane. No northbound left-turn movements would be allowed into the project site and would be prevented by a raised center median. Under Access Alternative B, in addition to the dedicated 100-foot southbound right turn lane and a 90-foot southbound left-turn lane, a 120-foot northbound left-turn lane would also be provided at this project driveway.

A 95-foot southbound left-turn lane and a 225-foot northbound left-turn lane would be provided at the signalized project driveway (study intersection # 9). The third southbound travel lane would become a trap right-turn lane at the signalized project driveway. South of the signalized intersection, two travel lanes would continue on Lower Sacramento Road and match the proposed design from the *Lower Sacramento Widening Project* that is currently under design by the City of Lodi.

***Near Term Plus Project Intersection Operations***

Access Alternative A

Table 6 shows the results of the Near Term Plus Project Conditions with the addition of project-generated traffic under Access Alternative A. The table shows that the project will have a less-than-significant impact on intersection operations at the four existing signalized intersections during both a.m. and p.m. peak hour conditions. The proposed signalized intersection on Lower Sacramento Road will also operate at LOS C conditions during both peak hours.

Table 6 shows that with the addition of project-generated traffic, the all-way STOP-controlled intersection of Lower Sacramento Road / Harney Lane will continue to operate at LOS F conditions and meets the Peak Hour Volume and Peak Hour Delay signal warrants for both a.m. and p.m. peak hour conditions. A total of 151 a.m. peak hour and 324 p.m. peak hour vehicle trips are projected to travel through the Lower Sacramento Road / Harney Lane intersection.

The five side street STOP-controlled driveway intersections will all operate with low to average delays for vehicles waiting to exit the project site.

Access Alternative B

Under Access Alternative B, the results of the analysis of Near Term Plus Project Conditions would be the same as for Access Alternative A except for the two northerly intersections on Lower Sacramento

Road. Table 6 shows that under Access Alternative B, the construction of the northbound left-turn lane at the northern Lower Sacramento Road driveway would result in traffic that would otherwise use the signalized project driveway under Access Alternative A to divert to the northern unsignalized intersection. This would result in the following effects:

1) A minor reduction in average vehicle delay at the signalized Lower Sacramento Road / Project Driveway. But the intersection would continue to operate at LOS B during a.m. and LOS C during p.m. peak hour conditions.

2) The northbound left-turn at the unsignalized driveway (study intersection # 5) would operate at LOS B during both a.m. and p.m. peak hour conditions. During the a.m. peak hour, approximately 175 southbound right-turn vehicles would enter the project site from Lower Sacramento Road. Signal operations at the West Kettleman Lane / Lower Sacramento Road intersection and Near Term Plus Project traffic volumes on southbound Lower Sacramento Road provide sufficient gaps in traffic for northbound left-turning vehicles to safely cross three lanes of traffic during a.m. peak hour conditions. During the p.m. peak hour, it is projected that approximately 350 southbound right-turn vehicles would enter the project site from Lower Sacramento Road. The northbound left-turn would operate at LOS C, but the number of available gaps to safely make the northbound left-turn would be reduced.

**Cumulative Conditions**

The analysis of traffic operations under cumulative conditions in 2020 was undertaken to determine if the addition of project traffic in combination with other traffic growth would result in cumulative adverse impacts. The following describes the planned roadway improvements, and the resulting traffic operations at the study intersections. (See the traffic report in Appendix G for a detailed discussion of the travel forecasting methodology used in this analysis.)

***Planned Cumulative Roadway Improvements***

Consistent with previous studies, the following roadway improvements were assumed for cumulative analysis. These roadways and the cumulative study intersections are shown in Figure 9B.

*Lower Sacramento Road* will be widened to provide additional travel lanes between Kettleman Lane and Harney Lane. Six through lanes are assumed on Lower Sacramento Road between Kettleman Lane and the signalized project driveway (southern Food 4 Less driveway). Four lanes are assumed on Lower Sacramento Road between the signalized project driveway (southern Food 4 Less driveway) and Harney Lane.

The City of Lodi is completing the final design of *Improvement Plans for the Lower Sacramento Road Widening from Harney Lane to Kettleman Road* (March 2004), and will begin construction by the end of 2004, with completion anticipated by 2006. The planned improvements to Lower Sacramento Road include two travel lanes in each direction from south of Kettleman Lane to just north of Harney Lane with the following design elements:

a) Dual 250-foot northbound left-turn pockets with a 120-foot taper at W. Kettleman Lane;

b) A 110-foot southbound left-turn lane with a 100-foot taper at the southern Food 4 Less Driveway;

**TABLE 6**

**NEAR TERM AND NEAR TERM PLUS PROJECT INTERSECTION LEVEL OF SERVICE (AM AND PM PEAK HOUR)**

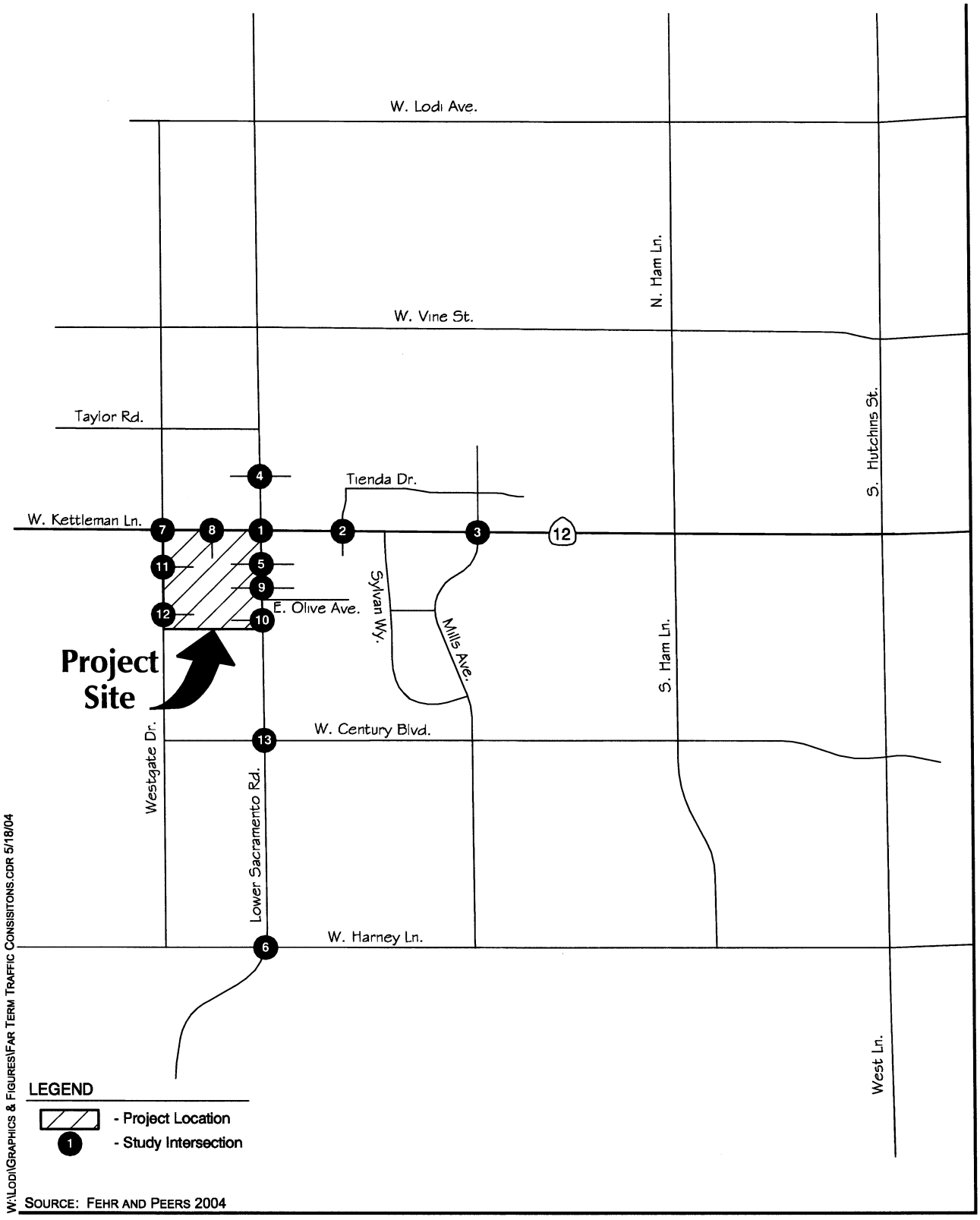
| # | Intersection | Traffic Control | Peak Hour | Near Term Conditions | | Near Term Plus Project Conditions | |
|---|---|---|---|---|---|---|---|
| | | | | Average Control Delay | LOS | Average Control Delay | LOS |
| 1 | SR 12/W.Kettleman Ln./ Lower Sacramento Rd. | Traffic Signal | AM<br>PM | 22.5<br>30.2 | C<br>C | 25.0<br>35.9 | C<br>C |
| 2 | W. Kettleman Ln./ Tienda Dr. | Traffic Signal | AM<br>PM | 17.4<br>26.0 | B<br>C | 17.1<br>29.5 | B<br>C |
| 3 | W. Kettleman Ln./ Mills Ave. | Traffic Signal | AM<br>PM | 22.6<br>26.6 | C<br>C | 22.9<br>30.8 | C<br>C |
| 4 | Lower Sacramento Rd./ Safeway Dwy. | Traffic Signal | AM<br>PM | 14.3<br>17.9 | B<br>B | 14.0<br>19.1 | B<br>B |
| 5 | Lower Sacramento Rd./ Project Dwy. #1 (Food 4 Less Dwy.) | Minor-Street Stop | AM<br>PM | 40.7<br>**> 50** | E<br>**F** | 8.3 (13.4 [1])<br>12.7 (21.8 [1])<br>SBL (NBL[1]) | A(B[1])<br>B(C[1]) |
| 6 | Lower Sacramento Rd./ Harney Ln. | All-Way Stop | AM<br>PM | **> 50**<br>**> 50** | **F**<br>**F** | **> 50**<br>**> 50** | **F**<br>**F** |
| 7 | W. Kettleman Ln./ Westgate Ave. | Traffic Signal | AM<br>PM | 21.6<br>24.7 | C<br>C | 30.6<br>34.4 | C<br>C |
| 8 | W. Kettleman Ln./ Project Dwy. #1 | Minor-Street Stop | AM<br>PM | Not Applicable | | 10.3<br>13.5 | B<br>B |
| 9 | Lower Sacramento Rd./ Project Dwy. #2 (Food 4 Less Dwy.) | Traffic Signal | AM<br>PM | Not Applicable | | 11.0 (10.4 [1])<br>31.6 (29.5 [1]) | B(B[1])<br>C(C[1]) |
| 10 | Lower Sacramento Rd./ Project Dwy. #3 | Minor-Street Stop | AM<br>PM | Not Applicable | | 16.1<br>21.6 | C<br>C |
| 11 | Westgate Ave./ Project Dwy. #4 (north) | Minor-Street Stop | AM<br>PM | Not Applicable | | 8.8<br>9.5 | A<br>A |
| 12 | Westgate Ave. /Project Dwy. #5 (south) | Minor-Street Stop | AM<br>PM | Not Applicable | | 8.4<br>8.5 | A<br>A |

Notes: LOS = Level of Service.

For intersections with all-way stop-control or a traffic signal, average delay is for all vehicles entering the intersection.

For intersections with minor-street stop-control, average delay is for vehicles on the minor-street approach only.

1 Level of service operations under Access Alternative B conditions.




NOT TO SCALE

FIGURE 9B

STUDY INTERSECTIONS - FAR-TERM/CUMULATIVE CONDITIONS



PMC
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c) Planted center median along the entire length of Lower Sacramento Road;

d) No southbound left-turn at the middle Food 4 Less unsignalized driveway.

*Kettleman Lane* would be widened to six travel lanes between Lower Sacramento Road and Mills Avenue.

*West Century Boulevard* will be extended westward across Lower Sacramento Road to the Westgate Drive extension. The intersection of West Century Boulevard and Lower Sacramento Road will be signalized.

*Westgate Drive* will be extended southward to Harney Lane and will intersect with the West Century Boulevard extension.

As a result of the roadway improvement projects listed above, the following lane configurations would change at the study intersections:

*Kettleman Lane / Tienda Drive* – The westbound right-turn lane will be converted into a shared through/right-turn lane.

*Kettleman Lane / Mills Avenue* - The eastbound and westbound right-turn lanes will be converted into a shared through/right-turn lane.

*Lower Sacramento Road / West Century Boulevard* – The intersection will be signalized and the following lane configuration is assumed: one left-turn lane and one shared through/right-turn lane on east and west approaches; and one left-turn lane, one through lane, and one shared through/right-turn lane on north and south approaches.

*Lower Sacramento Road / Harney Lane* – The intersection will be signalized and the following lane configuration is assumed:

Northbound: one left-turn lane, two through lanes, one right-turn lane;
Southbound: one left-turn lane, one through lane, one shared through/right-turn lane;
Eastbound: one left-turn lane, one shared through/right-turn lane;
Westbound: one left-turn lane, one through lane, two right-turn lanes.

*Kettleman Lane / Westgate Drive* – A third eastbound through lane will be added. The westbound right-turn lane will be converted into a shared through/right-turn lane.

***Project Trip Distribution and Assignment***

Due to the addition of new roadway segments under cumulative conditions (e.g., extension of Westgate Drive south to Harney Lane, and extension of West Century Blvd. west to Westgate Drive), the trip distribution and assignment was modified from the one used in the Future Plus Project analysis above. (See the traffic report in Appendix G for a detailed discussion and illustrations.)

***Cumulative No Project Intersection Operations***

Table 7 presents the results of the Cumulative No Project Conditions operations analysis. The results of the analysis show that the projected build-out of the City of Lodi General Plan, San Joaquin County General Plan and regional traffic on West Kettleman Lane (SR 12) will result in the intersection of West Kettleman Lane / Lower Sacramento Road operating at LOS D conditions during both a.m. and p.m. peak hour conditions. In addition, the intersection of West Kettleman Lane / Tienda drive is also projected to operate at LOS D under p.m. peak hour conditions.

The new signalized intersection of Lower Sacramento Road / West Century Boulevard is projected to operate at LOS B under both a.m. and p.m. peak hour conditions. The widened and signalized intersection of Lower Sacramento Road / Harney Lane is projected to operate at LOS C under both a.m. and p.m. peak hour conditions.

The existing Food 4 Less driveway, located approximately 450 feet south of West Kettleman Lane, is projected to operate at unacceptable LOS F conditions for the driveway stop-controlled intersection. But similar to existing conditions, the driveway would not meet any of Caltrans' signal warrants.

***Cumulative Plus Project Intersection Operations***

Access Alternative A

Table 7 also presents the results of the Cumulative Plus Project operations analysis for Access Alternative A. The results indicate that the seven signalized study intersection will all continue to operate at LOS D s or better during both the a.m. and p.m. peak hour.

During the a.m. peak hour, the addition of project-generated traffic will result in a 1 to 6 second increase in average vehicle delays at the seven signalized study intersections. During the p.m. peak hour, the addition of project-generated traffic will result in a 2 to 9 second increase in average vehicle delays at the seven signalized study intersections.

The proposed signalized intersection on Lower Sacramento Road at the project will operate at LOS C conditions during both peak hours.

The five side street STOP-controlled driveway intersections will all operate with low to average delays for vehicles waiting to exit the project site during both a.m. and p.m. peak hours.

Access Alternative B

Under Access Alternative B, the results of the analysis of Cumulative Plus Project Conditions would be the same as for Access Alternative A except for the two northerly intersections on Lower Sacramento Road. Table 7 shows that under Alternative B, the construction of the northbound left-turn lane at the northern Lower Sacramento Road driveway will result in traffic that would otherwise use the signalized project driveway under Access Alternative A to divert to the northern intersection. Heavy southbound traffic volumes on Lower Sacramento Road in the p.m. peak hour would result in vehicles backing up in the two southbound travel lanes when the signal is red to serve vehicles exiting the project site and the Food 4 Less Driveway. The vehicle queue would block northbound left-turning vehicles from safely entering the project site between Pads 8 and 7 and result in LOS F conditions. (See the traffic report in Appendix G for a detailed analysis of the impact of Access Alternative B.)

## TABLE 7

### CUMULATIVE AND CUMULATIVE PLUS PROJECT INTERSECTION LEVEL OF SERVICE

| # | Intersection | Traffic Control | Peak Hour | Cumulative Conditions | | Cumulative Plus Project Conditions | |
|---|---|---|---|---|---|---|---|
| | | | | Average Control Delay | LOS | Average Control Delay | LOS |
| 1 | SR 12/W.Kettleman Ln./ Lower Sacramento Rd | Traffic Signal | AM<br>PM | 39.2<br>37.1 | D<br>D | 44.0<br>40.9 | D<br>D |
| 2 | W. Kettleman Ln./ Tienda Dr. | Traffic Signal | AM<br>PM | 27.5<br>45.2 | C<br>D | 27.1<br>48.2 | C<br>D |
| 3 | W. Kettleman Ln./ Mills Ave. | Traffic Signal | AM<br>PM | 30.1<br>32.6 | C<br>C | 31.2<br>41.9 | C<br>D |
| 4 | Lower Sacramento Rd./ Safeway Dwy. | Traffic Signal | AM<br>PM | 15.0<br>22.7 | B<br>C | 15.0<br>25.8 | B<br>C |
| 5 | Lower Sacramento Rd./ Project Dwy. #1 (Food 4 Less Dwy.) | Minor-Street Stop | AM<br>PM | **> 50**<br>**> 50** | **F**<br>**F** | 14.3 (13.4 [1])<br>27.2 (**> 50** [1])<br>SBL (NBL[1]) | B(B[1])<br>D(**F**[1]) |
| 6 | Lower Sacramento Rd./ Harney Ln. | All-Way Stop | AM<br>PM | 26.8<br>24.5 | C<br>C | 27.5<br>28.4 | C<br>C |
| 7 | W. Kettleman Ln./ Westgate Drive | Traffic Signal | AM<br>PM | 27.2<br>29.4 | C<br>C | 33.4<br>38.2 | C<br>D |
| 8 | W. Kettleman Ln./ Project Dwy. #1 | Minor-Street Stop | AM<br>PM | Not Applicable | | 10.6<br>15.6 | B<br>C |
| 9 | Lower Sacramento Rd./ Project Dwy. #2 (Food 4 Less Dwy.) | Traffic Signal | AM<br>PM | Not Applicable | | 12.0 (10.1[1])<br>28.7 (24.5[1]) | B(B[1])<br>C(C[1]) |
| 10 | Lower Sacramento Rd./ Project Dwy. #3 | Minor-Street Stop | AM<br>PM | Not Applicable | | 11.5<br>10.6 | B<br>B |
| 11 | Westgate Drive/ Project Dwy. #5 (north) | Minor-Street Stop | AM<br>PM | Not Applicable | | 10.9<br>12.8 | B<br>B |
| 12 | Westgate Ave./Project Dwy. #5 (south) | Minor-Street Stop | AM<br>PM | Not Applicable | | 9.5<br>9.2 | A<br>A |
| 13 | Lower Sacramento Rd./W. Century Blvd. | Traffic Signal | AM<br>PM | 17.2<br>19.8 | B<br>B | 18.1<br>22.5 | B<br>C |

Notes: LOS = Level of Service.
For intersections with all-way stop-control or a traffic signal, average delay is for all vehicles entering the intersection.
For intersections with minor-street stop-control, average delay is for vehicles on the minor-street approach only.

1 Level of service operations under Access Alternative B conditions.

## IMPACTS AND MITIGATION

The following summarizes the potentially significant impacts of the project on the roadway, transit, and bicycle/pedestrian systems. The impact statements are followed by mitigation measures intended to reduce the impacts to less-than-significant levels.

**Impact H1.** **Near Term Plus Project Signalized Intersection Operations (Access Alternative A and Access Alternative B). With the addition of project-generated traffic, study intersection Level of Service would remain unchanged from Near Term No Project conditions. There would be minor increases in average vehicle delays, ranging from 1 to 9 seconds at certain study intersections, which is not considered a significant and adverse change. (Less-than-Significant Impact)**

**Mitigation.** **No mitigation required.**

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**Impact H2.** **Near Term Plus Project Unsignalized Intersection Operations (Access Alternative A and Access Alternative B). The addition of project-generated traffic would exacerbate LOS F operations at the intersection of Lower Sacramento Road / Harney Lane during both a.m. and p.m. peak hour conditions. (Significant Impact)**

The all-way STOP-controlled intersection of Lower Sacramento Road / Harney Lane currently operates at LOS F conditions and meets the Four Hour Volume and Peak Hour Volume and Delay warrants for both a.m. and p.m. peak hour conditions. Under existing a.m. peak hour conditions, a total of 1,495 vehicles travel through the unsignalized intersection. Approved projects are estimated to add 193 a.m. peak hour vehicle trips and the proposed project would add a total of 151 a.m. peak hour trips. Under existing p.m. peak hour conditions, a total of 1,690 vehicles travel through the unsignalized intersection. Approved projects are estimated to add 265 p.m. peak hour and the proposed project would add a total of 324 p.m. peak hour vehicle trips.

The Lower Sacramento Road Widening Project will provide two northbound and two southbound travel lanes on Lower Sacramento Road between the southern boundary of the project site and just north of Harney Lane. In addition, the southbound approach would be improved to provide a left-turn lane, a through lane, and a right-turn lane. But even with these improvements, the intersection will continue to operate at unacceptable LOS F conditions as either an unsignalized all-way STOP controlled intersection or with a temporary signal.

**Mitigation H2.** **The project shall contribute its fair share cost to the installation of a permanent traffic signal at Lower Sacramento Road and Harney Lane. Until the intersection improvements are made and traffic signals are installed, the project applicant shall contribute its fair share cost for the installation of a temporary traffic signal with left-turn pockets on all four approaches to the Lower Sacramento Road/Harney Lane intersection.**

Installation of a traffic signal and construction of left turn pockets on all four approaches would improve operations to LOS C conditions or better during a.m. and p.m. peak hour under Near Term Plus Project conditions for both Access Alternatives.

It should be noted that San Joaquin County is currently developing a Request for Proposals to develop improvements to the Lower Sacramento Road / Harney Lane intersection. Preliminary discussions with County staff indicate that improvements to the northbound, westbound and eastbound legs of the intersection would be completed by 2007, but no intersection designs have been developed to date.

In order to mitigate unacceptable level of service conditions which the proposed project would exacerbate, the project applicant shall contribute its fair share cost for the installation of a temporary traffic signal with left-turn pockets on all four approaches to the Lower Sacramento Road / Harney Lane intersection.

**Significance after Mitigation. Less-than-Significant Impact.**

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**Impact H3.** **Cumulative Plus Project Signalized Intersection Operations (Access Alternative A and Access Alternative B). With the addition of project-generated traffic, all seven signalized study intersections would continue to operate at acceptable Level of Service Conditions. There would be minor increases in average vehicle delays, ranging from 2 to 9 seconds at certain study intersections, which is not considered a significant and adverse change. (Less-than-Significant Impact)**

**Mitigation.** **No mitigation required.**

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**Impact H4.** **Cumulative Plus Project Access Conditions at the Signalized Access Driveway Proposed Along the Lower Sacramento Road frontage. During the p.m. peak hour, the eastbound left-turn queue length of 250 feet (average queue) to 375 feet (95$^{th}$ Percentile queue) of exiting vehicles would extend west to the internal intersection located south of Pad 10 (applies to both Access Alternative A and B). (Significant Impact)**

Heavy eastbound left-turn traffic volumes exiting the project site, in excess of 275 vehicles during p.m. peak hour conditions, onto northbound Lower Sacramento Road, would back up into the internal circulation intersection. Signal operations at the Lower Sacramento Road / Project Driveway / Southern Food 4 Less intersection would provide sufficient green time to serve the heavy-left-turning volume, but proposed storage length is inadequate to prevent the potential for congestion on the internal circulation system.

**Mitigation H4. Modify the project site plan to provide dual eastbound left-turn movements out of the project site onto northbound Lower Sacramento Road, consisting of a 150-foot left-turn pocket and a full travel lane back to the internal project site intersection. In the westbound direction, a left-turn pocket and a full travel lane will provide adequate capacity for inbound traffic. In addition, STOP signs shall be installed on**

**all approaches at the on-site intersection adjacent to Pads 10 and 11, except the westbound approach, to provide continuous traffic flow into the project site and eliminate the potential for backups onto Lower Sacramento Road. On the Food 4 Less approach, a 100-foot left-turn pocket will be provided at the signalized intersection.**

With dual left-turn lanes in the eastbound direction, protected left-turn movements for eastbound (out of the proposed shopping center) and westbound (out of the Food 4 Less Driveway) approaches are required to eliminate the potential for accidents. In addition, the site plan modification to the Food 4 Less property will be reviewed by the City of Lodi to ensure that vehicle and trucks entering the driveway do not result in vehicle queues backing up onto Lower Sacramento Road.

**Significance after Mitigation. Less-than-Significant Impact.**

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**Impact H5.** **Cumulative Plus Project Access Conditions at Northern Unsignalized Access Drive Along Lower Sacramento Road. The addition of a northbound left-turn lane under Access Alternative B would result in Level of Service F conditions at this unsignalized intersection. (This condition does not occur under Access Alternative A where no northbound left-turn movement would occur.) In addition, a non-standard 60-foot back-to-back taper is provided between the northbound left-turn lane (Alternative B) at the northern unsignalized access drive and the southbound left-turn lane at the signalized project entrance. (Significant Impact)**

Signal operations at the proposed Lower Sacramento Road / Project Driveway / Food 4 Less intersection, located approximately 625 feet south of Kettleman Lane would result in vehicle queues that would block vehicles from making the northbound left-turn movement into the project safely at the unsignalized intersection. Heavy southbound traffic volumes on Lower Sacramento Road would stop at the signal to the south resulting in vehicles backing up in the two southbound travel lanes. The vehicle queue would extend north through the unsignalized intersection and block northbound left-turning vehicles from safely entering the project site between Pads 8 and 7 and result in LOS F conditions.

**Mitigation H5. The following mitigations shall be implemented:**

**A) Extend a third southbound travel lane on Lower Sacramento Road from its current planned terminus at the signalized project driveway to the southern boundary of the project site;**

**B) Construct a 100-foot southbound right-turn lane at the signalized project driveway;**

**C) Extend the southbound left-turn pocket by 100 feet;**

**D) Extend the taper from 60 feet to a City standard 120-foot taper;**

**E) Eliminate the northbound left-turn lane into the northern project driveway (under Alternative B).**

With the implementation of this mitigation measure, vehicles entering the project site at the signalized driveway will have a dedicated right-turn pocket and would not impact traffic flow on southbound Lower Sacramento Road. In addition, the extension of the third southbound travel lane will reduce southbound queuing at the signalized project driveway and improve egress from the northern right-turn out project driveway located 320 feet south of the W. Kettleman Lane / Lower Sacramento Road intersection.

**Significance after Mitigation. Less-than-Significant Impact.**

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**Impact H6.** **On Westgate Drive, a non-City standard 64 foot back-to-back taper is proposed between the northbound left-turn lane at W. Kettleman Lane and the southbound left-turn lane at the northern project driveway. (Significant Impact)**

The proposed site plan shows a distance of 340 feet between the intersections. Based on the traffic analysis, a total distance of 365 feet between the intersections would be required, assuming a City standard 90-foot taper for this roadway.

**Mitigation H6. The project site plan shall be modified to move the north project driveway on Westgate Drive south by 25 feet in order to accommodate the required 90-foot taper length.**

**Significance after Mitigation. Less-than-Significant Impact.**

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**Impact H7.** **On Lower Sacramento Road, a non-City standard 70 foot back-to-back taper is proposed between the dual northbound left-turn lanes at W. Kettleman Lane and the southbound left-turn lane at the middle Food 4 Less Driveway. (Significant Impact)**

The proposed site plan shows a distance of 360 feet between the intersections. Based on the traffic analysis, a total distance of 450 feet between the intersections would be required, assuming a standard 120-foot taper for this roadway. It is not feasible to provide this required distance between the two intersections, primarily because both intersection locations are fixed by existing conditions (i.e., this project entrance must be located opposite the middle Food 4 Less driveway).

**Mitigation H7. The project site plan shall be modified to eliminate the southbound left-turn lane into the middle Food 4 Less Driveway.**

**Significance after Mitigation. Less-than-Significant Impact.**

**Impact H8.** **Public Transit Service. Development of the project would create a demand for increased public transit service above that which is currently provided or planned. (Significant Impact)**

The retail businesses at the project would attract residents from Lodi and San Joaquin County, some of whom would use public transit, if available, to access the site. The existing transit service may not be sufficient to serve existing and approved land uses in the area, as well as the proposed project. Based on a transit ridership analysis completed by the City of Lodi, the addition of the Wal-Mart Supercenter along with the other stores in the proposed shopping center would result in a 20 percent increase in demand on transit. This would exceed the capacity of the existing transit system and would require the purchase of an additional transit vehicle.

**Mitigation H8. The project applicant shall work with and provide fair share funding to the City of Lodi Grapeline Service and the San Joaquin Regional Transit District to expand transit service to the project.**

**Significance after Mitigation. Less-than-Significant Impact.**

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**Impact H9.** **Public Transit Stop. Development of the project would create an unmet demand for public transit service which would not be met by the single transit stop proposed for the northwest portion of the project. (Significant Impact)**

The retail businesses at the project would create the demand for public transit service to the project site. To accommodate transit service, one on-site transit stop is proposed at the southwest corner of the internal site intersection (between Wal-Mart and Pad 3). However, the proposed transit stop does not include a bus bay and thus could result in transit vehicles blocking the internal intersection while dropping off or picking up passengers.

Based on the size of the project, a second transit stop located within the project site and near Lower Sacramento Road would be needed.

**Mitigation H9. Modify the project site plan to: 1) provide a bus bay and passenger shelter at the proposed transit stop; and 2) include a second transit stop in the eastern portion of the project near Lower Sacramento Road.**

The transit stop shall be modified to provide a bus bay to eliminate the potential for a transit vehicle blocking the internal intersection while dropping off or picking up passengers. In addition, a sheltered transit stop shall be provided for inclement weather or high temperatures.

Based on the size of the project, a second transit stop located within the project site and near Lower Sacramento Road is required. The second transit stop shall be located next to Pad 10 and would require elimination of eight parking spaces to provide a bus bay and sheltered transit stop.

**Significance after Mitigation. Less-than-Significant Impact.**

**Impact H10.** **Bicycle Facilities. Development of the project would create a demand for bicycle facilities along West Kettleman Lane, Lower Sacramento Road, and Westgate Drive. (Less-than-Significant Impact)**

The project would create a demand for bicycle facilities along West Kettleman Lane and Lower Sacramento Road. The project site plan shows that a Class II on-street bicycle lane will be constructed along the project frontages on Kettleman Lane and Lower Sacramento Road, and on both sides of Westgate Drive along the project frontage in conjunction with the project.

The project applicant will provide bicycle racks in front of all 13 retail buildings in accordance with City zoning requirements.

**Mitigation.** **No mitigation required.**

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**Impact H11.** **Pedestrian Facilities. Development of the project would create an unmet demand for pedestrian facilities along West Kettleman Lane, Lower Sacramento Road and Westgate Drive, and internally between the different areas of the project site. (Significant Impact)**

The project site plan shows that sidewalks will be constructed on the segments of Kettleman Lane, Lower Sacramento Road, and Westgate Drive along the frontage of the project site. In addition, pedestrian walkways and crosswalks are proposed between Wal-Mart and the majority of pads within the project site. However, gaps in the internal pedestrian circulation system serving Pads 8, 9, and 12 were identified on the project site plan.

**Mitigation.** **Pedestrian walkways and crosswalks shall be provided to serve Pads 8, 9, and 12 in order to complete the internal pedestrian circulation system..**

**Significance after Mitigation. Less-than-Significant Impact.**

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**Impact H12.** **Parking. Development of the project would create a demand for off-street parking spaces. (Less-than-Significant Impact)**

City of Lodi General Plan requires new developments to provide an adequate number of off-street parking spaces in accordance with City parking standards. As specified City's *Design Standards for Large Retail Establishments* (adopted April 7, 2004), the minimum number of off-street parking spaces to be provided by a large-scale retail operation shall be 2 spaces for every 1,000 square feet of building space. The maximum number of off-street parking spaces shall not exceed five (5) spaces for every 1,000 square feet of building space.

The proposed site plan provides 1,641 off-street parking spaces for 339,966 square feet of building space. This corresponds to 4.83 spaces per 1,000 square feet of building space, which falls over the minimum and under the maximum permitted by the design standards.

**Mitigation.** **No mitigation required.**

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**Impact H13** **Development of the project would create a demand for on-site truck circulation and site access from W. Kettleman Lane, Lower Sacramento Road, and Westgate Drive; however, the project site plan indicates that adequate lane widths would be provided within the project site and that adequate curb radii are planned at the project driveway entrances and within the project for all types of trucks. (Less-than-Significant Impact)**

The City of Lodi General Plan requires new developments to provide adequate width of on-site travel lanes and curb radii for on-site truck circulation. In addition, adequate access and egress from the surrounding roadway system must be provided for truck traffic without impacting traffic flow on W. Kettleman Lane, Lower Sacramento Road, and Westgate Drive.

The proposed site plan was reviewed for both on-site truck circulation and site access from the surrounding roadway system. It was determined that adequate width was provided for on-site travel lanes to serve both single unit (WB-20) and tractor-trailer unit (WB-40) trucks. In addition, it was determined that the project driveways (e.g., two on Westgate Drive, one on W. Kettleman Lane, and three on Lower Sacramento Road) all provide sufficient curb radii to serve project-generated truck traffic entering and exiting the project site.

As discussed above under Mitigations H4, H6, H7, H9, and H11, modifications to the site plan are required to mitigate identified transportation impacts resulting from the project as proposed. For purposes of this analysis, it is reasonable to expect that the City of Lodi will ensure that the required project design changes do not result in deficiencies with regard to adequate lane widths and turn radii for truck access and internal circulation. As such, the project is not expected to result in a significant impact in terms of truck access and circulation.

**Mitigation.** **No mitigation required.**

# I. NOISE

The following discussion is based on the Environmental Noise Assessment prepared by Illingworth & Rodkin in July 2004. The full noise report is contained in Appendix H of this EIR.

## ENVIRONMENTAL SETTING

### Background Information on Acoustics and Noise Measurement

Noise is defined as unwanted sound. Airborne sound is a rapid fluctuation of air pressure above and below atmospheric pressure. Sound levels are usually measured and expressed in decibels (dB) with 0 dB corresponding roughly to the threshold of hearing. On this scale, noise at zero decibels is barely audible, while noise at 120 to 140 decibels is painful and may cause hearing damage.

Noise measurement equipment includes an electrical filter to reflect the fact that human hearing is less sensitive to low and very high frequencies than sound frequencies in the mid-range. The sound levels measured in this manner are called A-weighted sound levels and are expressed as dBA.

Since environmental sound levels vary over time, noise levels are described by various statistical noise descriptors that correspond to varying time periods. Thus the noise levels exceeded during 10 percent of the time are expressed as $L_{10}$ , with noise levels exceeded 50 percent of the time expressed as $L_{50}$ , and so on. The $L_{eq}$ is the average A-weighted noise level during a specified period of time.

Since the sensitivity to noise increases during the evening and at night (because excessive noise interferes with the ability to sleep), 24-hour descriptors have been developed that incorporate artificial noise penalties added to quiet-time noise events. The *Community Noise Equivalent Level, CNEL*, is a measure of the cumulative noise exposure in a community, with a 5 dB penalty added to evening (7:00 pm to 10:00 pm) and a 10 dB penalty added to nighttime (10:00 pm to 7:00 am) noise levels. The *Day/Night Average Sound Level, $L_{dn}$,* is essentially the same as CNEL, with the exception that the evening time period is dropped and all occurrences during this three-hour period are grouped into the daytime period.

For a detailed background discussion of environmental noise, see the noise study in Appendix G of this EIR.

### Existing Noise Environment

The project site is bounded on the north by State Route 12/West Kettleman Lane and on the east by Lower Sacramento Road. In the vicinity of the site, both roadways produce noise levels of 65 dB CNEL or greater at 100 feet as noted in the Noise Element of the Lodi General Plan. To the south and west, the site is bounded by agricultural lands which are designated for residential use in the City's General Plan. The nearest existing residences include three rural residences to the northwest of the project site across Highway 12, and 10 single-family dwellings located across Lower Sacramento Road to the east of the site (see Figure 4). Other noise sensitive receptors are also present at greater distances from the site along the major arterial streets. Throughout the project site and the surrounding area, the dominant existing noise source is traffic noise from the two adjacent arterial streets.

To quantify the existing noise environment, a series of noise level measurements were conducted at the project site and immediately surrounding area. These measurements established the existing noise levels at three locations including: 1) the rural residential residences to the north across Highway 12; 2) the single-family dwellings to the east across Lower Sacramento Road; and 3) an on-site location at the southern project boundary approximately 1,200 feet west of Lower Sacramento Road. The noise measurements indicated that 24-hour noise levels average about 64 dBA $L_{dn}$ (and 64 dBA CNEL) at the rural residences north of Highway 12, and about 60 dBA $L_{dn}$ (or 61 dBA CNEL) at the single-family dwellings east of Lower Sacramento Road. Both of these locations exceed 60 dBA $L_{dn}$/CNEL, the upper General Plan threshold for acceptable noise levels for residential uses, these noise levels are considered to be "Conditionally Acceptable" according to the noise compatibility guidelines of the City of Lodi General Plan (see discussion under 'General Plan' below). At the third measurement site, along the southern project boundary, the 24-hour noise levels about 56 $L_{dn}$/CNEL, although the measurements did indicate several higher noise intrusions which were probably related to the operation of farm machinery in the adjacent vineyard.

## REGULATORY SETTING

### General Plan

The following City of Lodi General Plan goal and policies on noise are relevant to the project:

***Section 6. Noise***

Goal A: To ensure that City residents are protected from excessive noise.

Policy 1. The City shall use the outdoor CNEL criteria on the land use compatibility chart (General Plan Figure 6-4) as a primary guide to determine whether all or part of an existing or proposed development site should be considered "noise impacted"; areas shall be considered noise impacted if current or projected exterior noise levels would classify the area as "conditionally acceptable," "normally unacceptable," or "presumed to be unacceptable" for the existing or proposed use.

[Figure 6-4 of the Noise Element contains guidelines, based on the State Noise Standards, which establish noise thresholds for various land uses. These guidelines are typically applied to establish when noise levels will result in impacts, and when project noise should be mitigated or when mitigation may not be feasible. The Guidelines include four categories of noise including noise levels which are "Presumed to be acceptable" (requiring no mitigation), "Conditionally Acceptable" (with acceptability depending on the land use and extent of mitigation provided), "Normally Unacceptable" (new construction or development should be discouraged, although mitigation may be possible), and "Clearly Unacceptable" (mitigation measures unlikely to be available). For the commercial uses proposed in the project, average daily noise levels of up to 65 dB ($L_{dn}$ or CNEL) are "presumed to be acceptable," and noise levels from 65 dB to 75 dB are "conditionally acceptable." For the noise sensitive existing single-family dwellings in the immediate project vicinity, noise levels of up to 65 dB are "presumed to be acceptable," and noise levels from 60 dB to 65 dB are "conditionally acceptable," and noise levels from 65 dB to 75 dB are "normally

unacceptable." (For the City's complete Land Use Compatibility Chart, see the Environmental Noise Study in Appendix H of this EIR.)]

Policy 2. The City shall recognize that a CNEL measure does not adequately reflect the disturbance effects of intermittent noise events or noise sources that operate for only part of a day. Intermittent or discontinuous noise sources should be evaluated on a case-by-case basis to determine appropriate land use compatibility classifications.

## Noise Regulations

The City of Lodi Municipal Code includes Noise Regulations which prohibit "public nuisance noise" which "disturbs the peace and quiet of any neighborhood or which causes discomfort or annoyance to any reasonable person of normal noise sensitivity." There are a number of considerations to be applied in determining whether a noise constitutes a public nuisance (e.g., volume, intensity, duration, time of day, proximity of residential, etc.), although no specific decibel thresholds are included. Section 9.24.020(B) of the Noise Regulations state that "...the standards which shall be considered in determining whether a violation of the provision of this section exists shall include, but not be limited to, the following:

1. The volume of the noise;
2. The intensity of the noise;
3. Whether the nature of the noise is usual or unusual for the area and hour;
4. Whether the origin of the noise is natural or unnatural;
5. The volume and intensity of the background noise, if any;
6. The proximity of the noise to residential sleeping facilities;
7. The nature and the zoning of the area within which the noise emanates;
8. The density of the inhabitation of the area within which the noise emanates;
9. The time of day or night the noise occurs;
10. Whether the noise is produced by a commercial or noncommercial activity.

The Noise Regulations also prohibit "excessive, offensive or disturbing noise" which includes sound from equipment or instruments (e.g., drum, radio, phonograph, loudspeaker, sound amplifier, stereo, television, or similar sound system) that is clearly audible at a distance of 50 feet. Section 9.24.030(C) of the regulations states in part: [i]t is unlawful...to cause, permit, or generate any sound as described herein between the hours of ten p.m. and seven a.m. which exceeds the ambient noise level at the property line of any residential property...by more than five decibels. This section shall be applicable whether such noise or sound is of a commercial or non-commercial nature." The City of Lodi also applies this section of the Noise Regulations to any activity which causes excessive nighttime noise. Therefore, an excessive, offensive, or disturbing noise from the proposed development would be subject to this noise restriction.

### SIGNIFICANCE CRITERIA

For purposes of this EIR, the project would be considered to have a significant noise impact if it would result in:

- Exposure of persons to noise levels in excess of those established in the General Plan Noise Element or allowed by the City's Noise Regulations;

The applicable standards and criteria are described above under 'General Plan' and 'Noise Regulations.'

- A substantial, permanent increase in the ambient noise levels in the areas adjoining the project area.

  A permanent increase of 3 dB is considered substantial for areas subject to existing noise levels of 60 dBA or greater, and a permanent increase of 5 dB is considered substantial where current noise levels are under 60 dB. (Noise increases of less than 3 dB are normally not noticeable or perceptible to human hearing.) This is applied to the noise generated on-site by the project and noise generated by increased traffic due to the project. It is typically evaluated on a time-averaged basis such as CNEL or hourly $L_{eq}$ depending on the nature of the noise.

- Substantial temporary or periodic increases in ambient noise levels in the areas adjoining the project.

  For development projects, this applies to construction-related activity. The same 3 dB and 5 dB thresholds of significance as discussed above would apply to noise level increases from these sources.

## IMPACTS AND MITIGATION

The following discussion of noise impacts and mitigation measures addresses noise impacts that the proposed project would generate or be subject to in the near-term. For a discussion of impacts under cumulative conditions with General Plan buildout, see Section *III. Cumulative Impacts*.

**Impact I1. Existing Noise from Off-Site Sources. The project noise environment would be affected by existing off-site noise sources. (Less-than-Significant Impact)**

The project site fronts onto two major arterial roads, SR 12/West Kettleman Lane and Lower Sacramento Road, which are major sources of traffic noise. The existing noise levels measured on the site exceed 65 dBA CNEL within 200 feet of SR 12/West Kettleman Lane, and would be in the range of "Conditionally Acceptable" under the City's General Plan noise criteria. The remaining areas of the site experience noise levels lower than 65 dBA CNEL, which is considered "Acceptable" under the noise criteria.

Upon completion of the project, the traffic generated by the project and other pending projects in the vicinity would increase overall traffic volumes on West Kettleman Lane and Lower Sacramento Road. However, the resulting increase in noise levels would be one dB or less relative to baseline levels without the project, which would not be noticeable.

The General Plan designation for the project site is "NCC Neighborhood/Community Commercial" and the zoning is "Commercial Shopping." These are land use categories where the permitted uses are intended to be those that are relatively insensitive to traffic noise and are therefore compatible with the adjacent arterial roadways. As such, the existing traffic noise on the adjacent roadways, combined with the additional traffic

noise generated by pending projects and the proposed project, would not have a significant impact on the project.

**Mitigation.** **No mitigation required.**

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**Impact I2.** **Project Traffic Noise. Traffic generated by the project would increase noise levels at the residential properties in the vicinity. (Less-than-Significant Impact)**

Existing noise sensitive residential uses in the project vicinity are located on the north side of SR 12/West Kettleman Lane and the east side of Lower Sacramento Road. Traffic generated by the project would not result in a measurable change in noise levels along these nearby road segments, where the increase in traffic noise from background trips and project trips would be less than 1 dBA. This is less than the 3 decibel noise increase criteria used to define a significant noise impact where ambient noise levels exceed 60 dBA CNEL. (A 3 dBA increase in noise levels generally results from a doubling of traffic volume.) Therefore, the nearby residential uses would not be subject to significant noise impacts as a result of project-generated traffic.

**Mitigation.** **No mitigation required.**

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**Impact I3.** **Noise from Project Activity. Noise generated by activity associated with the project would elevate off-site noise levels at existing and future residences in the vicinity. (Significant Impact)**

Onsite noise sources associated with the Lodi Shopping Center will include: (1) parking lot activity, (2) delivery truck activity, (3) loading dock activity, (4) trash compactors, (5) mechanical equipment, (6) automotive service activities, and (7) parking lot cleaning activities. Based on noise measurement data collected from operations at similar completed projects, the noise levels generated by each of these project activities were determined, along with the associated environmental impacts.

1) Parking Lot Activity. Major noise sources in project parking lot will include, in order of magnitude, the starting of engines, car horns, door slams, low speed moving vehicles, and human voices. The proposed parking areas nearest to the existing residential neighbors would be located in the southeast corner of the project, and would be about 160 feet away from the nearest dwellings across Lower Sacramento Road to the east. The majority of these dwellings are located at least 200 feet from the nearest planned parking stalls. The central portion of the major parking area would be more than 500 feet away these dwellings, with Lower Sacramento Road and retail buildings in between, The nearest existing dwellings to the northwest would be at least 500 feet from the nearest parking and would have Highway 12 in between. Along the southern boundary, the nearest parking spaces would be within 15 feet of future residential property lines;

however, the planned residential uses to south would be screened from the parking area by an 8-foot masonry sound wall.

All noises generated in the parking lot would be of short to very short duration. The sound of starting vehicle tends to last a few seconds and produces levels of the order of 55 dBA at 200 feet. Impulsive horn sounds occur mostly due to remote door locking systems that give a short "beep" to signify the doors are locked. These very short beeps can produce maximum levels of 50 dBA at distances of 200 feet. More intentional horn usage can produce levels on the order of 55 dBA at 200 ft. Low speed, light vehicle movements typically produce noise levels of about 44 dBA at 200 feet. Door slams create very short duration noise which can also produce maximum noise levels as high as 44 dBA. The hourly average noise level $L_{eq}$ resulting from all of these noise-generating activities in a busy shopping center parking lot could range from 35 to 40 dBA 200 feet from the path of the vehicles. Parking lot noise may be heard occasionally outside of the nearest residences, but noise levels would not measurably alter the existing traffic-dominated noise levels for these existing residences. For these residences, the noise impact associated with parking lot activity would be less than significant.

Residential development is also planned between the stormwater basin and the electrical substation on the west side of the shopping center. The proposed new Westgate Drive (a 72-foot wide roadway) would be located between this residential development and the shopping center. Noise levels within this future residential area would be dominated by traffic on this new street. According to the City of Lodi Community Development Department, this future residential development would consist of multi-family units facing Westgate Drive. Since the outdoor activity areas would be to the rear of the units, the buildings themselves would provide shielding from street noise and would also serve to reduce noise emanating from proposed shopping center. Since the speed of the cars on the street would be much greater than the speed of the cars in the parking lot and the distance between the new homes and any parking spaces would be over 150 feet, it is not likely that the noise levels from the parking lot would be noticeable at these new residences. In any case, parking lot activity would not add to the noise level generated by traffic on the new street.

2) Delivery Truck Movements. Loading docks are proposed for the Wal-Mart and the retail store on Pad 12 in the southeast corner of the site. The loading dock for the Wal-Mart would be on the west side of the building facing the future Westgate Drive. The future residential development to the south would be screened from activity and noise from this area by the Wal-Mart building itself and the proposed masonry walls along the south and west sides of the shopping center. The future residential area to the west of the Wal-Mart building would be screened from the loading area by a 10-foot masonry wall to be constructed along the west side of the Wal-Mart building. The proposed loading dock of the store on Pad 12 would be located near the south property line adjacent to the future residential development, which would receive screening from the 8-foot masonry wall planned along the southern site boundary. Noise generated by delivery trucks at this location would depend on the type of truck and frequency of deliveries.

*Anticipated Delivery Activities*. Wal-Mart will receive eight to 10 large truck deliveries for general merchandise, and two to three large refrigerated trucks per day for the grocery component. It will also receive eight to 10 deliveries per day by medium-sized vendor owned trucks. All deliveries must occur between the hours of 7:00 AM and 10 PM, in order to meet the City of Lodi Noise Regulations.

The store on Pad 12 is expected to receive about seven deliveries per day. These would be by either medium or large trucks between 7:00 AM and noon, approximately one delivery per hour.

*Typical Truck Noise*. From the noise measurements taken at similar operations, a typical average level for low speed, heavy truck movement on-site into and out of loading dock areas is 66 dBA at 150 feet. For medium size delivery trucks, the typical noise level is about 63 dBA at 150 feet. Truck refrigeration equipment generates a maximum noise level of 67 to 70 dBA at a distance of 150 feet.

Given the low volume of truck traffic that would likely be generated by the store on Pad 12, and the proximity of the loading dock area to Lower Sacramento Road, intermittent noise from truck operations are calculated to not increase the CNEL outside of the nearest existing dwellings across Lower Sacramento Road to the east or the closest future homes adjacent to the south. Since no truck movements are anticipated for this loading dock area at night, no sleep disturbance would be expected and no violations of the City of Lodi Noise Regulations would be likely to occur. The presence of the 8-foot masonry wall at this location would further reduce noise from the loading dock area to a level that would be indistinguishable from traffic noise on Lower Sacramento Road.

Future development located to the west of the shopping center would be screened from the loading dock area of the Wal-Mart by a 10-foot masonry sound wall. Additionally, this residential area would be separated from the proposed shopping center by the presence of future Westgate Drive. The 10-foot high masonry sound wall would reduce noise generated by activity in the loading dock area of Wal-Mart to a level at or below that generated by traffic on Westgate Drive. This activity would not be a significant noise source to the future residential development.

The project site plan shows a continuous drive aisle along the southern site boundary, which would allow delivery trucks bound for Wal-Mart to enter at the southern entrance driveway on Lower Sacramento Road and travel westward along the southern site boundary to the Wal-Mart loading docks. Since the exhaust pipes on large delivery trucks typically extend upward to 11 feet above ground level, the 8-foot high masonry wall planned along the southern site boundary would not provide attenuation of exhaust noise for the future adjacent residential units whose rear yards would abut this wall. For any large Wal-Mart delivery trucks that may travel along the southern boundary outside of the City-authorized hours of 7:00 AM to 10:00 PM, this exhaust noise would violate the City's Noise Regulations and result in a significant noise impact to the future adjacent residents to the south.

3) Loading Dock/Material Movement Activity. In addition to the truck movements to and from the project loading docks, loading activities at the docks themselves could also

generate adverse noise impacts. However, the loading docks for "big-box" retail centers are typically designed so that larger delivery trucks must back up to a rubber gasket against the opening of the building, with all unloading done directly into the building. The rubber gasket type of loading dock provides a tight connection between the truck and the building specifically for noise abatement purposes. Field observations made at similar facilities indicate that noise from this loading dock type is generally not audible or measurable from surrounding off-site locations.

In addition to unloading operations, other activities are expected in the vicinity of the loading docks and adjacent storage containers that may generate noise. Some forklift operations are expected for movement of pallets around the loading area. For typical propane fueled fork lifts, levels for these types of operations are expected to generate maximum noise levels of about 56 dBA at 150 feet.

Given the location of nearest existing residences 1,000 feet to the north across Highway 12 and 1,300 feet to east across Lower Sacramento Road, these existing residences would not be subject to a significant noise impact due to loading dock and material movement activities at the Wal-Mart store.

Activity within the loading and truck circulation area on the west side of Wal-Mart would be conducted behind a 10-foot high sound wall along the west site boundary and an 8-foot high wall along the south boundary. At the closest point, this activity would be about 100 feet from the nearest future residences to the south and the west. Maximum noise level at these locations would be expected to be less than 60 dBA and typically less than 50 dBA. Since this activity would be confined to the daytime and maximum noise levels would be typical of existing maximum noise levels in the area, no noise impacts would be expected on future residential development.

For planned residential uses to the south of the shopping center, the property lines of the nearest residences could be quite close to loading dock and material movement activities at the rear of the store on Pad 12. Noise sources associated with this activity would be banging and clanging of metal occasionally (closing rollup doors, rolling carts, etc.), and loud voices. However, the 8-foot masonry wall planned for the south project boundary would reduce noise levels in the nearest rear yards to below 70 dBA, which would be typical of maximum noise levels generated by traffic emanating from Lower Sacramento Road in this area. In addition, the noise from the activity at this loading dock would not be expected to be audible outside of the existing homes on the east side of Lower Sacramento Road due to the distance from the loading dock and the noise generated by traffic on Lower Sacramento Road.

4) Trash Compactors. Trash compactors generate maximum noise levels of 40 to 50 dBA at 150 feet, depending on the power rating and enclosure characteristics. Based on the project site plan, trash compactors would be located on the site on the north and south sides of the Wal-Mart loading dock areas. At these locations, future residential property lines could be located as close as about 100 feet to the west and 270 feet to the south and would be subject to noise levels from 30 to 40 dBA with the intervening masonry walls. Therefore, the noise generated by the trash compactors would represent a less-than-significant impact.

5) Mechanical Equipment. Mechanical equipment typically includes heating, ventilating, air conditioning, and refrigeration equipment. Noise generated by rooftop mounted mechanical equipment varies significantly depending upon the equipment type and size. However, based on measurements made at other similar commercial centers and large supermarkets in the region, noise levels of 60 to 70 dBA at 15 feet from external mechanical systems can be anticipated from the project. Noise levels would be somewhat reduced due to shielding from the roofs and distance. In addition, the applicant has indicated that parapet walls are planned for Wal-Mart and the other retail buildings, including the store on Pad 12. The heights of the parapets would range from about six to eight feet, and would not exceed 10 feet in height. The intent is to design the parapets to break the line of sight between the rooftop mechanical equipment and the nearest existing and future residences. For any instances where the parapet walls are not sufficiently high to break the line of sight, individual screen walls would be installed around each mechanical unit. The potential noise impacts associated with the mechanical equipment upon the nearest existing and future residents, assuming installation of solid parapets and/or screen walls, is evaluated below.

The nearest existing residences on the east side of Lower Sacramento Road would be at least 300 feet from the mechanical equipment on the roof of the building on Pad 12. Equipment noise levels are expected to be reduced to less than 45 dBA at the nearest existing residences due to the intervening distance and shielding provided by the building and parapets.

For planned future residences to the south of the project, the nearest property lines could be as close as 130 feet from the rooftop mechanical equipment on the Wal-Mart building, and as close as 60 feet from the rooftop equipment on the building on Pad 12. The planned masonry wall between the shopping center and potential future residences would likely be too low to provide any attenuation from the rooftop to the yards of the residences. However, the solid parapet walls planned for Wal-Mart store and the building on Pad 12 would provide sufficient screening to reduce average daily noise levels to less than 60 dB CNEL in both cases. Assuming the parapet walls and/or screen walls are effective in reducing mechanical noise, the impact to the nearest future residences to the south should be less than significant.

The future residential development to the west of the project would be at least 200 feet from the nearest rooftop mechanical equipment on the Wal-Mart store. Noise levels would be reduced to well under 60 dB CNEL at these future residences by the distance separation, the screening effect of the parapet walls, and due to the fact that the outdoor use areas for the nearest units would be to the west of the dwellings and screened by the residential buildings themselves. Therefore, for the planned residential development to the west of the project, rooftop mechanical equipment would represent a less-than-significant noise impact.

Based on the above analysis, the noise impact to the nearest existing and future residences would be less than significant if all rooftop mechanical equipment is fully screened as indicated by the applicant. However, building plans showing these parapets and screen walls have not been completed and therefore were not available for review in

this analysis. Until such plans are submitted and reviewed for adequacy of noise mitigation, it must be concluded that the mechanical equipment may result in a potentially significant impact to some nearby residences, particularly the future dwellings planned along the south project boundary.

In addition to the rooftop mechanical equipment, the Wal-Mart store will include two condenser units for refrigeration equipment to serve the grocery sales area in the southern portion of the store. The units will be located along the south wall of the store and will be enclosed by 16-foot high CMU walls which will extend at least two feet above the condenser units. The south-facing doors of the enclosure will also be composed of solid material. Ventilation louvers will likely be included on the east and west facing walls of the enclosure, and will include sound insulating material as needed. Refrigeration condenser units typically produce maximum noise levels of 65 dB at 25 feet. The only potentially affected residential areas would be the planned future residential adjacent to the south where the rear yards of the nearest dwellings would be as close as 110 feet to the condenser units. The noise levels in these rear yards would be reduced somewhat by this distance separation, and substantial noise attenuation would be provided by the solid enclosures surrounding the condenser units and the 8-foot high masonry wall along the southern project boundary. The resulting average daily noise levels from the condenser units in the nearest rear yards is projected to be 35 dB CNEL. This would be well under the City's 60 dB CNEL threshold for residential outdoor use areas, and therefore would represent a less-than-significant impact.

6) Automotive Service Bays. The Wal-Mart store would include an auto service shop in its southwest corner. Noise generating activities at auto maintenance shops typically include the use of power tools, air compressors, slamming of doors and hoods, engine startups, and people's voices. Based on field studies of similar operations, pneumatic tool usage was the only activity that was faintly audible at a distance of 200 feet from the outside of the facility. At this distance, the noise levels generated by these activities are typically not measurable above the ambient of 45 dBA. All existing residences would be over 800 feet away from the planned auto service shop with intervening arterial streets. Future residential property lines to the south would be over 600 feet from this facility, and would also receive sound blocking from the Wal-Mart store itself and the 8-foot masonry wall along the south project boundary. At this distance, the noise reaching this area is expected to be inaudible. Future residential development to the west would be at least 200 feet away, with an intervening 10-foot masonry wall along the west side of the Wal-Mart site. With the attenuating effects of the distance separation and intervening sound wall, and the presence of ambient traffic noise along Westgate Drive, the noise reaching this area from the auto service shop is also expected to be inaudible. Therefore, noise generated by activities at the auto service shop is not expected to result in a significant adverse noise impact.

7) Parking Lot Cleaning. Typically, the parking area surface at shopping centers is periodically cleaned using small mechanical parking lot sweepers and hand-held, back-mounted leaf blowers. Based on measurements taken at a similar operation, it was determined that at a distance of 150 feet, the noise generated by mechanical parking lot sweepers is not significant. However, the noise of the back-mounted leaf blowers was found to be significant. Leaf blower noise levels range from 60 to 70 dBA at a distance

of 150 feet, depending on the type of leaf blower. Such equipment could probably be operated throughout the project site without resulting in noise impacts, with the possible exception of the parking spaces along the perimeter of the southeast corner of the site, where the nearest existing dwellings are 160 feet away. While the average daily noise levels due to leaf blowing activity are unlikely to exceed the 60 dB CNEL threshold, the maximum noise levels would violate the City's Noise Regulations if leaf blowing is conducted in southeast corner of the project site between the hours of 10 p.m. and 7 a.m. Therefore, for the nearest existing residences on the east side of Lower Sacramento Road, any leaf blowing activity in the southeast corner of the project site would result in a potentially significant noise impact.

**Mitigation I3. The following noise mitigations are identified as appropriate for the various types of project activities, to reduce project noise at both existing and planned future adjacent development:**

**Parking Lot Activity. No mitigation is required for existing dwellings or for planned future residential development in the vicinity.**

**Delivery Truck Movements. No mitigation is required for existing dwellings. In order to avoid noise impacts to future residences adjacent to the southern site boundary resulting from the movement of large delivery trucks along the southern drive aisle, no delivery trucks (except those bound for Pad 12) will be permitted to enter the site from the southern project entrance on Lower Sacramento Road. This restriction will be implemented by signage and/or design features incorporated into the southern drive aisle, or other measures determined appropriate by the City, which will discourage through truck movements along the southern site boundary. The specific measures to be implemented will be determined by the City at the design review stage of project approval.**

**Loading Dock/Material Movement Activity. No mitigation is required for existing dwellings or for planned future residential development in the vicinity.**

**Trash Compactors. No mitigation is required for existing dwellings in the vicinity or for planned future residential development in the vicinity.**

**Rooftop Mechanical Equipment. To ensure that the potential noise impact of mechanical equipment is reduced to less-than-significant levels, the applicant shall submit engineering and acoustical specifications for project mechanical equipment, for review prior to issuance of building permits for each retail building, demonstrating that the equipment design (types, location, enclosure specifications), combined with any parapets and/or screen walls, will not result in noise levels exceeding 45 dBA ($L_{eq\text{-}hour}$) for any residential yards.**

**Automotive Service Bays. No mitigation is required for existing dwellings in the vicinity or for planned future residential development in the vicinity.**

**Parking Lot Cleaning. To assure compliance with the City of Lodi Noise Regulations regarding occasional excessive noise, the use of leaf blowers and other loud cleaning equipment, such as vacuum trucks, shall be limited to operating during the hours of 7:00 a.m. to 10:00 p.m.**

**Significance after Mitigation. Less-than-Significant Impact.**

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Impact I4. **Noise from Stormwater Basin Pump. Occasional pumping of water from the stormwater basin would generate noise at the planned future residential areas to the south and west of the basin. (Significant Impact)**

The stormwater basin is planned to be located just west of the southwest corner of the shopping center project (see Figure 6). This basin will include a 5 to 10 horsepower (hp) pump to remove water from the basin after each winter storm. The location of the pump has not yet been determined. If this pump is located on the south, west, or north side of the basin, it could be as close as 50 feet to future residential development planned for those adjacent areas. Depending on the size of the pump, noise levels could range from 68 to 80 dBA at a distance of 50 feet from the source. Therefore, even at the lower end of this range, the noise from a pump located in a worst-case location along the south, west, or north side of the basin would result in significant impacts to the nearest future dwellings. The pump would not be audible from existing dwellings to the north of Highway 12 and east of Lower Sacramento Road which would be at least 800 feet to the north and 1,400 feet east of the basin, respectively.

If the pump were located at the east side of the basin, midway between the future residential areas to the north and south (i.e., as far as possible from future planned residences), the additional distance separation would provide a noise reduction of about 12 dBA, resulting in noise levels of up to 56 dBA outside the nearest homes. Even at these levels, the pump may create a significant noise impact based on the operating cycle and frequency of operation, although the overall effect during daytime hours would be masked by traffic noise along Westgate Drive. Since ambient nighttime noise levels in these residential areas is expected to be 40 to 41 dBA, the resulting noise levels would be up to 16 dBA over ambient at the nearest future dwellings. For nighttime operation, this level of noise would exceed the noise restrictions of the City Noise Regulations, which only allow an increase of up to 5 dBA over ambient at night. Therefore, noise generated by the basin pump would represent a potentially significant impact for future residential land uses in the vicinity.

**Mitigation I4. The following measures shall be implemented to mitigate potential noise generated by the stormwater basin pump:**

1) **The pump shall be located as far as is feasible from the nearest future planned residential development. In addition, the pump facility shall be designed so that noise levels do not exceed 45 dBA at the nearest residential property lines. The pump may need to be enclosed to meet this noise level. Plans and specifications for the pump facility shall be included in the Improvement Plans for the project and reviewed for compliance with this noise criterion.**

2) **In order to avoid creating a noise nuisance during nighttime hours, pump operations shall be restricted to the hours of 7 a.m. to 10 p.m., except under emergency conditions (e.g., when the basin needs to be emptied immediately to accommodate flows from another imminent storm).**

**Significance after Mitigation. Less-than-Significant Impact.**

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**Impact I5.** **Construction Noise. Noise levels would be temporarily elevated during grading and construction. (Significant Impact)**

Each phase of project construction would involve several noise-generating activities. The first construction phase would typically involve ground clearing, site grading, installation of infrastructure, and paving. Subsequent phases would include site improvements and the construction of the various shopping center buildings. The typical range of average hourly noise levels during various phases of construction ranges from 81 to 88 dBA, as shown in Table 8. Average noise levels above 60 dBA begin interfering with speech communication.

For existing residences along Highway 12 to the northwest of the site, construction activities would range in distance from 800 to 2200 feet. At these distances, the highest levels of construction noise would range from 55 to 64 dBA on an average hourly basis. Depending on location, the construction activities could exceed the current average noise levels by up 7 dB and create periods of speech inference. For the existing residences to the east of the site across Lower Sacramento Road, distance from construction activity would range from 160 and 1200 feet resulting in noise levels ranging from 60 to 76 dBA. These levels would exceed the current hourly average levels by up to 15 dB. Therefore, depending on the phase of construction, associated noise intrusion into residential areas adjacent to the project site would intermittently interfere with typical residential activities. These intrusions would result in potentially significant short-term impacts.

**TABLE 8**

**AVERAGE CONSTRUCTION NOISE LEVELS BY PHASE**

| Construction Phase | Hourly Average Noise Level (dBA $L_{eq}$) at 50 feet |
|---|---|
| Ground Clearing | 83 |
| Excavation | 88 |
| Foundations | 81 |
| Erection | 81 |
| Finishing | 88 |

Source: U.S. EPA 1971

**Mitigation I5. Short-term construction noise impacts shall be reduced through implementation of the following measures:**

**Construction Scheduling. The applicant/contractor shall limit noise-generating construction activities to daytime, weekday, (non-holiday) hours of 7:00 AM to 6:00 PM.**

**Construction Equipment Mufflers and Maintenance. The applicant/contractor shall properly muffle and maintain all construction equipment powered by internal combustion engines.**

**Idling Prohibitions. The applicant/contractor shall prohibit unnecessary idling of internal combustion engines.**

**Equipment Location and Shielding. The applicant/contractor shall locate all stationary noise-generating construction equipment such as air compressors as far as practicable from existing nearby residences. Acoustically shield such equipment as required to achieve continuous noise levels of 55 dBA or lower at the property line.**

**Quiet Equipment Selection. The applicant/contractor shall select quiet construction equipment, particularly air compressors, whenever possible. Fit motorized equipment with proper mufflers in good working order.**

**Notification. The applicant/contractor shall notify neighbors located adjacent to, and across the major roadways from, the project site of the construction schedule in writing.**

**Noise Disturbance Coordinator. The applicant/contractor shall designate a "noise disturbance coordinator" who would be responsible for responding to any local complaints about construction noise. The disturbance coordinator would notify the City, determine the cause of the noise complaints (e.g., starting too early, bad muffler, etc.) and would institute reasonable measures to correct the problem. Conspicuously post a telephone number for the disturbance coordinator at the construction site, and include it in the notice sent to neighbors regarding construction schedule. All complaints and remedial actions shall be reported to the City of Lodi.**

**Significance after Mitigation. Less-than-Significant Impact.**

# J. AIR QUALITY

The following discussion is based on the Air Quality Impact Analysis prepared for the project by Donald Ballanti in July 2004. The air quality report is contained in Appendix I of this EIR.

## ENVIRONMENTAL AND REGULATORY SETTING

### Air Pollution Climatology

The project is located in the San Joaquin Valley air basin, which is defined by the Sierra Nevada in the east, the Coast Ranges in the west, and the Tehachapi mountains in the south. The surrounding topographic features restrict air movement through and out of the basin and, as a result, impede the dispersion of pollutants from the basin. Inversion layers are formed in the San Joaquin Valley air basin throughout the year. (An inversion layer is created when a mass of warm dry air sits over cooler air near the ground, preventing vertical dispersion of pollutants from the air mass below). During the summer, the San Joaquin Valley experiences daytime temperature inversions at elevations from 2,000 to 2,500 feet above the valley floor. During the winter months, inversions occur from 500 to 1,000 feet above the valley floor.

The climate of the project area is typical of inland valleys in California, with hot dry summers and cool, mild winters. Daytime temperatures in the summer often exceed 100 degrees, with lows in the 60s. In winter, daytime temperatures are usually in the 50s, with lows around 35 degrees. Radiation fog is common in the winter, and may persist for days. Winds are predominantly up-valley (from the north-northwest) in all seasons, but more so in the summer and spring months. Winds in the fall and winter are generally lighter and more variable in direction.

The pollution potential of the San Joaquin Valley is very high. Surrounding elevated terrain in conjunction with temperature inversions frequently restrict lateral and vertical dilution of pollutants. Abundant sunshine and warm temperatures in summer are ideal conditions for the formation of photochemical oxidant, and the Valley is frequently subject to photochemical pollution.

### Ambient Air Quality Standards

The federal and California state ambient air quality standards are summarized in Table 9 for important pollutants. The federal and state ambient standards were developed independently with differing purposes and methods, although both processes attempted to avoid health-related effects. As a result, the federal and state standards differ in some cases. In general, the California state standards are more stringent. This is particularly true for ozone and $PM_{10}$.

The U.S. Environmental Protection Agency (U.S. EPA) established new national air quality standards for ground-level ozone and for fine particulate matter in 1997. Implementation of these standards was delayed by litigation, but they were determined to be valid and enforceable by the U. S. Supreme Court in a decision issued in February of 2001. Complete implementation will not occur until the U.S. Environmental Protection Agency has issued court-approved guidance.

**TABLE 9**

**FEDERAL AND STATE AMBIENT AIR QUALITY STANDARDS**

| Pollutant | Averaging Time | Federal Primary Standard | State Standard |
|---|---|---|---|
| Ozone | 1-Hour | 0.12 PPM | 0.09 PPM |
| | 8-Hour | 0.08 PPM | -- |
| Carbon Monoxide | 8-Hour | 9.0 PPM | 9.0 PPM |
| | 1-Hour | 35.0 PPM | 20.0 PPM |
| Nitrogen Dioxide | Annual Average | 0.05 PPM | -- |
| | 1-Hour | -- | 0.25 PPM |
| Sulfur Dioxide | Annual Average | 0.03 PPM | -- |
| | 24-Hour | 0.14 PPM | 0.05 PPM |
| | 1-Hour | -- | 0.5 PPM |
| $PM_{10}$ | Annual Average | 50 $\mu g/m^3$ | 20 $\mu g/m^3$ |
| | 24-Hour | 150 $\mu g/m^3$ | 50 $\mu g/m^3$ |
| $PM_{2.5}$ | Annual Average | 15 $\mu g/m^3$ | 12 $\mu g/m^3$ |
| | 24-Hour | 65 $\mu g/m^3$ | -- |
| Lead | 30-Day Avg. | -- | 1.5 $\mu g/m^3$ |
| | Month Avg. | 1.5 $\mu g/m^3$ | -- |

Source: Donald Ballanti
PPM = Parts per Million
$\mu g/m^3$ = Micrograms per Cubic Meter

The State of California regularly reviews scientific literature regarding the health effects and exposure to PM and other pollutants. On May 3, 2002, the California Air Resources Board (CARB) staff recommended lowering the level of the annual standard for $PM_{10}$ and establishing a new annual standard for $PM_{2.5}$ (particulate matter 2.5 micrometers in diameter and smaller). The new standards became effective on July 5, 2003.

In addition to the criteria pollutants discussed above, Toxic Air Contaminants (TACs) are another group of pollutants of concern. Toxic Air Contaminants (TACs) are injurious in small quantities and are

regulated despite the absence of criteria documents. The identification, regulation and monitoring of TACs is relatively recent compared to that for criteria pollutants.

**Health Effects of Pollutants**

The primary air quality problems in the San Joaquin Valley Air Basin (Air Basin) are ozone and particulate matter. Carbon monoxide has been a problem in the past within the Air Basin in larger cities such as Fresno, Bakersfield, Modesto and Stockton. The following is a discussion of the health effects of these important pollutants.

Ozone

Ozone is produced by chemical reactions, involving nitrogen oxides ($NO_x$) and reactive organic gases (ROG), which are triggered by sunlight. Nitrogen oxides are created during combustion of fuels, while reactive organic gases are emitted during combustion and evaporation of organic solvents. Since ozone is not directly emitted to the atmosphere, but is formed as a result of photochemical reactions, it is considered a secondary pollutant. In the Air Basin, ozone is a seasonal problem, occurring roughly from April through October.

Ozone is a strong irritant that attacks the respiratory system, leading to the damage of lung tissue. Asthma, bronchitis and other respiratory ailments as well as cardiovascular diseases are aggravated by exposure to ozone. A healthy person exposed to high concentrations may become nauseated or dizzy, may develop headache or cough, or may experience a burning sensation in the chest.

Research has shown that exposure to ozone damages the alveoli (the individual air sacs in the lung where the exchange of oxygen and carbon dioxide between the air and blood takes place). Research has shown that ozone also damages vegetation.

Suspended Particulate

Particulate matter (PM) is a complex mixture of tiny particles that consists of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. Exposure to PM aggravates a number of respiratory illnesses and may even cause early death in people with existing heart and lung disease.

PM is a mixture of substances that include elements such as carbon and metals; compounds such as nitrates, organic compounds, and sulfates; and complex mixtures such as diesel exhaust and soil. Some particles are emitted directly into the atmosphere. Others, referred to as secondary particles, result from gases that are transformed into particles through physical and chemical processes in the atmosphere.

"Inhalable" PM consists of particles less than 10 microns in aerodynamic diameter, and is defined as "suspended particulate matter" or "$PM_{10}$." $PM_{10}$ includes the subgroup of finer particles with aerodynamic diameter of 2.5 microns and smaller ($PM_{2.5}$). These finer particles pose an increased health risk because they can deposit deep in the lung and contain substances that are particularly harmful to human health.

Carbon Monoxide

Carbon monoxide (CO) is a local pollutant in that high concentrations occur only very near the source. CO is a colorless, odorless, poisonous gas of which the major source is automobile traffic. Elevated concentrations, therefore, are usually only found near areas of high traffic volumes.

Carbon monoxide's health effects are related to its affinity for hemoglobin in the blood. At high concentrations, carbon monoxide reduces the amount of oxygen in the blood, causing heart difficulties in people with chronic diseases, reduced lung capacity and impaired mental abilities.

Carbon monoxide concentrations are highly seasonal, with the highest concentrations occurring in the winter. This is partly due to the fact that automobiles create more carbon monoxide in colder weather and partly due to the very stable atmospheric conditions that exist on cold winter evenings when winds are calm. Concentrations typically are highest during stagnant air periods within the period November through January.

**Regional Air Quality Planning**

The San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD or Air District) shares responsibility with the California Air Resources Board (CARB) for ensuring that the State and national ambient air quality standards are met within San Joaquin County and the San Joaquin Valley Air Basin. State law assigns local air districts the primary responsibility for control of air pollution from stationary source while reserving to the CARB control of mobile sources. The District is responsible for developing regulations governing emissions of air pollution, permitting and inspecting stationary sources, monitoring air quality, and air quality planning activities.

Federal and state air quality laws require identification of areas not meeting the ambient air quality standards. These areas must develop regional air quality plans to eventually attain the standards. Under both the federal and state Clean Air Acts the San Joaquin Valley Air Basin is a "nonattainment area" (standards have not been attained) for ozone and $PM_{10}$. The Air Basin is either in attainment or unclassified for other ambient standards.

The federal ozone non-attainment designation of the air basin was officially changed from "serious" to "severe" on December 10, 2001. Under this designation, the San Joaquin Valley air basin is required to meet the federal ozone standards by November 15, 2005. The most recent federal ozone plan (*Amended 2002 and 2005 Rate of Progress Plan for San Joaquin Valley Ozone*, December 2002) determined that it could not be demonstrated that the federal ozone standards could be met by the required date of November 15, 2005. In December 2003, the San Joaquin Valley Unified Air Pollution Control District requested that the U.S.EPA downgrade the Valley's ozone status from "severe" to "extreme" non-attainment. The downgrade would extend the deadline for meeting attainment while avoiding automatic sanctions, but requires implementation of stricter controls on existing and future air pollutant sources.

The air basin is designated as a "serious" non-attainment area for federal $PM_{10}$ ambient air quality standards. Under this designation, the air district is required to meet the 24-hour and annual $PM_{10}$ standards by December 31, 2006. Failure to meet the attainment deadline could result in increased offset requirements for new industrial sources and potential sanctions including withholding of federal grants for capacity-expanding transportation projects, new transportation planning requirements and can ultimately stop all federally funded transportation projects in the District (except safety projects).

The U.S. EPA has designated the San Joaquin Valley Air Basin as a non-attainment area for the federal 8-hour ozone standard. The California Air Resources Board and U.S. EPA are both recommending that the San Joaquin Valley Air Basin be classified non-attainment for the federal $PM_{2.5}$ standard. Final designations for the $PM_{2.5}$ standard are expected by December 15, 2004.

To meet California Clean Air Act requirements, the District is currently drafting the 2003 Triennial Plan updating the Air Quality Attainment Plan (AQAP) addressing the California ozone standard. The California Legislature, when it passed the California Clean Air Act in 1988, excluded $PM_{10}$ from the basic planning requirements of the Act. The Act did require the CARB to prepare a report to the Legislature regarding the prospect of achieving the State ambient air quality standard for $PM_{10}$. This report did not recommend imposing a planning process similar to that for ozone or other pollutants for achievement of the standard within a certain period of time.

### Current Air Quality

The San Joaquin Valley Unified Air Pollution Control District and California Air Resources Board (CARB) operate air monitoring sites throughout the San Joaquin Valley Air Basin. The closest monitoring sites to the project are located in Stockton about 15 miles south. There are two monitoring sites in Stockton, one on East Mariposa which measures only ozone, and another on Hazelton Street which monitors ozone, particulate matter, carbon monoxide and nitrogen dioxide. Table 10, on the next page, summarizes recorded exceedances of State and Federal standards at these monitoring sites for the period 2000-2002. Table 10 shows that the federal/state standards for ozone and particulate matter are frequently exceeded in the project area.

### Sensitive Receptors

The SJVUAPCD defines a sensitive receptor as a location where human populations, especially children, seniors, and sick persons are present and where there is a reasonable expectation of continuous human exposure to pollutants. Examples of sensitive receptors include residences, hospitals and schools. The nearest sensitive receptors to the site are the residences across Lower Sacramento Road from the project site. Existing residences are also located just west of the site on the north side of Highway 12. Other surrounding land uses are commercial and agricultural.

## General Plan

The following City of Lodi General Plan goals and policies related to air quality are relevant to the project:

***Section 3. Circulation Element***

Goal G: To encourage reduction in regional vehicle miles traveled.

Policy 1. The City shall promote ridesharing to reduce peak-hour traffic congestion and help reduce regional miles traveled.

Policy 2. The City shall promote employment opportunities within Lodi to reduce commuting to areas outside of Lodi.

***Section 7. Conservation Element***

Goal F: To promote and, insofar as possible, improve air quality in Lodi and the region.

Policy 1. The City shall promote travel by bicycle and foot within Lodi.

Policy 2. The City shall promote transit for trips within Lodi and for regional trips.

Policy 5. The City shall promote employment opportunities within Lodi to reduce commuting to areas outside Lodi.

**TABLE 10**

**AMBIENT AIR QUALITY AT STOCKTON MONITORING SITES, 2001-2003**

| Pollutant | Standard | Days Exceeding Standard in: | | |
|---|---|---|---|---|
| | | 2001 | 2002 | 2003 |
| East Mariposa Monitoring Site | | | | |
| Ozone | State 1-Hour | 5 | 5 | - |
| | Federal 1-Hour | 0 | 0 | - |
| | Federal 1-Hour | 1 | 1 | - |
| Hazelton Street Monitoring Site | | | | |
| Ozone | State 1-Hour | 5 | 2 | 3 |
| | Federal 1-Hour | 0 | 0 | 0 |
| | Federal 1-Hour | 1 | 0 | 1 |
| Carbon Monoxide | State and Fed. 8-Hour | 0 | 0 | 0 |
| | State 1 Hour | 0 | 0 | 0 |
| Nitrogen Dioxide | State 1-Hour | 0 | 0 | 0 |
| $PM_{10}$ | State 24-Hour | 11 | 10 | 3 |
| | Federal 24-Hour | 0 | 0 | 0 |
| $PM_{2.5}$ | Federal 24-Hour | 2 | 0 | 0 |

Source: Donald Ballanti.

## SIGNIFICANCE CRITERIA

For purposes of this EIR, the project would be considered to result in a significant air quality impact if it would:

- Conflict with or obstruct implementation of the applicable air quality plan.
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation.
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).
- Expose sensitive receptors to substantial pollutant concentrations.
- Create objectionable odors affecting a substantial number of people.

In addition, the San Joaquin Valley Unified Air Pollution Control District has established the following standards of significance:

- A project results in estimated carbon monoxide concentrations exceeding the California Ambient Air Quality Standard of 9 parts per million averaged over 8 hours and 20 ppm for 1-hour.
- A project results in new direct or indirect emissions of ozone precursors (ROG or $NO_x$) in excess of 10 tons per year.
- Any project with the potential to frequently expose members of the public to objectionable odors will be deemed to have a significant impact.
- Any project with the potential to expose sensitive receptors (including residential areas) or the general public to substantial levels of toxic air contaminants would be deemed to have a potentially significant impact.

While San Joaquin Valley Unified Air Pollution Control District CEQA guidance recognizes that $PM_{10}$ is a major air quality issue in the basin, it has to date not established numerical thresholds for significance for $PM_{10}$. For the purposes of this analysis, a $PM_{10}$ emission of 15 tons per year was used as a significance threshold. This emission is the SJVAPCD threshold level at which new stationary sources requiring permits from the District must provide emissions "offsets". This threshold of significance for $PM_{10}$ is consistent with the District's ROG and $NO_x$ thresholds of ten tons per year, which are also offset thresholds for stationary sources.

Despite the establishment of both federal and state standards for $PM_{2.5}$, the SJVAPCD has not developed a threshold of significance for this pollutant. For this analysis, $PM_{2.5}$ impacts would be considered significant if project emissions of $PM_{10}$ exceed 15 tons per year.

SJVAPCD CEQA guidance does not recommend quantitative analysis of construction emissions. The SJVUAPCD significance threshold for construction dust impacts is based on the appropriateness of

construction dust controls. If the appropriate construction controls are to be implemented, then air pollutant emissions for construction activities would be considered less than significant.

## IMPACTS AND MITIGATION

**Impact J1.** **Construction Emissions. Construction and grading for the project would generate dust and exhaust emissions that could adversely affect local and regional air quality. (Significant Impact)**

Construction within the project site would result in numerous activities that would generate fugitive dust. Grading, earthmoving and excavation comprise the major source of construction dust emissions, but traffic and general disturbance of the soil also generate significant dust emissions. The fine, silty soils in the project area and often strong afternoon winds exacerbate the potential for dust, particularly in the summer months. Impacts would be localized and variable. Construction impacts would last for a period of months for any given parcel. Construction dust impacts are considered to be potentially significant on a localized basis, and could result in nuisance complaints at the residences located downwind of the site on the east side of Lower Sacramento Road.

Construction equipment and vehicles would also generate exhaust emissions during active construction. Although operated temporarily at construction sites, construction equipment is a substantial source category within the San Joaquin Valley Air Basin, generating ozone precursors as well as $PM_{10}$.

During construction various diesel-powered vehicles and equipment would be in use on the site. In 1998, the California Air Resources Board identified particulate matter from diesel-fueled engines as a toxic air contaminant (TAC). CARB has completed a risk management process that identified potential cancer risks for a range of activities using diesel-fueled engines. High volume freeways, stationary diesel engines, and facilities attracting heavy and constant diesel vehicle traffic (distribution centers, truck stops, etc.) were identified as having the highest associated risk.

Health risks from Toxic Air Contaminants are function of both concentration and duration of exposure. Unlike the above types of sources, construction diesel emissions are temporary, affecting an area for a period of days or perhaps weeks. Additionally, construction related sources are mobile and transient in nature, and the bulk of the emission occurs within the project site at a substantial distance from nearby receptors. Because of its short duration, health risks from construction emissions of diesel particulate would represent a less-than-significant impact.

During construction various diesel-powered vehicles and equipment in use on the site would create odors. These odors would be temporary and unlikely to be noticeable beyond the project boundaries.

Construction activities are also a source of organic gas emissions. Solvents in adhesives, non-waterbase paints, thinners, some insulating materials and caulking materials would evaporate into the atmosphere and would participate in the photochemical reaction that creates urban ozone. Asphalt used in paving is also a source of organic gases for a short

time after its application. The overall air quality impact resulting from the project due to these sources is not considered significant.

**Mitigation J1. Dust control measures shall be implemented to reduce $PM_{10}$ emissions during grading and construction, as required by the City of Lodi and the San Joaquin Valley Unified Air Pollution Control District.**

The San Joaquin Valley Unified Air Pollution Control District, under its Regulation VIII, requires the following in conjunction with construction activities:

- Effective dust suppression for land clearing, grubbing, scraping, excavation, land leveling, grading, cut and fill and demolition activities.
- Effective stabilization of all disturbed areas of a construction site, including storage piles, not used for seven or more days.
- Control of fugitive dust from on-site unpaved roads and off-site unpaved access roads.
- Removal of accumulations of mud or dirt at the end of the work day or once every 24 hours from public paved roads, shoulders and access ways adjacent to the site.

Beyond the requirements of the SJVUAPCD, the following additional dust control measures, identified in the Air District's guidelines, shall be implemented:

- Limit traffic speeds on unpaved roads to 15 mph.
- Install wheel washers for all exiting trucks, or wash off all trucks and equipment leaving the site.
- Suspend excavation and grading activities when winds exceed 20 mph.
- Limit size of area subject to excavation, grading or other construction activity at any one time to avoid excessive dust.
- Install sandbags or other erosion control measures to prevent silt runoff to public roadways from sites with a slope greater than one percent.
- Expeditiously remove the accumulation of mud or dirt from adjacent public streets at least once every 24 hours when operations are occurring.

The following are additional appropriate mitigation measures that would reduce exhaust emissions during construction:

- Equipment not in use for more than ten minutes should be turned off.
- Limit the hours of operation of heavy duty equipment and/or the amount of equipment in use.

- Whenever feasible and cost effective, use electrically driven equipment (provided they are not run via a portable generator set).

Violations of the requirements of Regulation VIII are subject to enforcement action. Violations are indicated by the generation of visible dust clouds and/or generation of complaints.

The City of Lodi will require that the dust control measures be included as part of the General Notes on the project Improvement Plans, which must be approved by the City Public Works Department prior to commencement of grading. In addition, the City requires that paving of roads and parking lots shall be completed as early as possible to mitigate short-term dust generation during construction.

**Significance after Mitigation: Less-than-Significant Impact.**

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**Impact J2.** **Carbon Monoxide Emissions. Traffic generated by the project would increase carbon monoxide emissions at local roadways and intersections; however, the resulting carbon monoxide concentrations would not exceed applicable thresholds. (Less-than-Significant Impact)**

On the local scale, the pollutant of greatest interest is carbon monoxide. Concentrations of this pollutant are related to the levels of traffic and congestion along streets and at intersections.

The SJVAPCD provides screening criteria to identify situations where carbon monoxide modeling is warranted. If neither of the following criteria is met at intersections affected by the project, the project is concluded to have no potential to create a violation of the carbon monoxide standards:

- The Level of Service (LOS) on one or more streets or at one or more signalized intersections in the project vicinity will be reduced to LOS E or F, (emphasis added) or

- The project will substantially worsen an already existing LOS F on one or more streets or at one or more signalized intersections in the project vicinity.

The transportation impact analysis conducted for the proposed project found no roads or signalized intersections forecast to operate at LOS E or F in the project vicinity under existing, project, or cumulative conditions. Based on the SJVAPCD criteria and the forecast Level of Service conditions on roads and intersections affected by project and cumulative traffic, the project would have no potential to create a violation of the carbon monoxide standards. Any carbon monoxide concentration increases resulting from the proposed project would be less than significant.

**Mitigation.** **No mitigation required.**

**Impact J3.** **Regional Air Quality. Emissions from project-generated traffic would result in air pollutant emissions affecting the entire air basin. (Significant Impact)**

Project traffic emissions would have an effect on air quality outside the project vicinity and would result in air pollutant emissions within the air basin. The annual increase in regional emissions from auto travel and area sources (landscaping activities, water and space heating, etc.) is shown in Table 11 for reactive organic gases (hydrocarbons) and oxides of nitrogen (the two precursors of ozone), and $PM_{10}$. As shown in Table 11, project-related emissions of all three pollutants are well above the applicable thresholds of significance, so project impacts on regional air quality would be significant. (As discussed under 'Significance Criteria' above, since the project would result in a regional $PM_{10}$ impact, it would also result in a regional $PM_{2.5}$ impact.)

TABLE 11
PROJECT REGIONAL EMISSIONS (TONS PER YEAR)

| | Reactive Organic Gases (ROG) | Nitrogen Oxides (NOx) | Particulate Matter ($PM_{10}$) |
|---|---|---|---|
| Auto Emissions | 37.12 | 44.33 | 28.03 |
| Area Source Emissions | 0.08 | 0.55 | 0.00 |
| Totals | 37.20 | 44.88 | 28.03 |
| Significance Threshold | 10.0 | 10.0 | 15.0 |

**Mitigation J3.** **Project design measures shall be implemented to reduce project area source emissions, and a Transportation Demand Management (TDM) plan should be implemented to reduce project traffic and resulting air emissions; however, these measures would not reduce the impact to a less-than-significant level.**

Project Design Measures

In order to reduce project area source emissions, the project design should:

- Use energy efficient design including automated control system for heating/air conditioning and energy efficiency, utilize lighting controls and energy-efficient lighting in buildings and use light colored roof materials to reflect heat.

- Provide deciduous trees on the south and westerly facing sides of buildings.
- Provide low nitrogen oxide ($NO_x$) emitting and/or high efficiency water heaters.
- Reserve appropriate easements to provide for future improvements such as bus turnouts, loading areas, and shelters.

According to the project architect, a number of energy saving measures would be incorporated into the design of the Wal-Mart store to conserve and manage energy. These would include the use of skylights, energy-efficient HVAC units, solar-reflective roofing materials, and energy-efficient lighting systems, among other things.

Transportation Demand Management

The project shall be subject to a Transportation Demand Management plan to reduce single occupant vehicle commute trips by employees and promote non-auto travel by both employees and patrons. The plan shall include the following components:

- Designation of an on-site TSM coordinator.
- Implement a carpool/vanpool program (e.g., provide carpool ridematching for employees, assistance with vanpool formation, provision of vanpool vehicles, etc.).
- Provide lockers for employees bicycling or walking to work (in addition, the provision of showers in the Wal-Mart store is strongly encouraged but not required. It is further recommended that any such showers be available to employees of the other businesses in the shopping center).

The suburban location and character of the project area limits the potential for further reducing regional air quality impacts. Available air quality mitigation strategies for commercial development are most effective on work trips, which comprise a very small fraction of total project trips. Parking restrictions or fees as a means of reducing vehicle trips are impractical unless imposed regionally.

The upper limit of trip reduction through TSM measures, under ideal conditions, is about 20 percent. For the project, where TSM effectiveness is limited by several factors, noted above, the effectiveness of the above air quality mitigation measures in reducing daily trips is estimated to be no more than five percent. This would not reduce the project's regional air quality impacts to a level that is less than significant.

**Significance after Mitigation. Significant and Unavoidable Impact.**

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**Impact J4.** **Diesel Exhaust. The project diesel delivery trucks could result in the emission of Toxic Air Contaminants (TACs). (Less than Significant Impact)**

The project would generate new diesel truck trips, increasing exposure to diesel particulate. The California Air Resources Board has identified particulate emissions from diesel-fueled engines as a Toxic Air Contaminant (TAC).

With CARB's identification of particulate from diesel exhaust as a TAC, it was required to determine if there is a need for further control of these emissions. CARB recently completed a risk management process that identifies cost-effective measures available to reduce public exposure. A ban on diesel-fueled engines is not being considered. The risk management program proposes the three following components:

- New regulatory standards for all new on-road vehicles that will result in a 90 percent reduction in particulate emissions from diesel vehicles.
- New retrofit requirements for existing on-road vehicles where determined to be technically feasible and cost effective; and
- New diesel fuel regulations to reduce the sulfur content as needed by advanced diesel emissions controls.

The projected emissions benefits are reductions in diesel exhaust particulate of 75 percent by 2010 and 85 percent by 2020.

The majority of large truck trips generated by the project would go to the Wal-Mart loading docks on the west side of the site. A lesser number of truck trips would be generated by the retail users on Pad 12 in the southeast corner of the site. The Wal-Mart loading docks are at least 1,000 feet from the closest existing residential property on the north side of Kettleman Lane and the east side of Lower Sacramento Road. The existing residences on the east side of Lower Sacramento Road would be closer to the small loading dock for Pad 12, but truck traffic generated by this loading dock would be limited. Future residential development planned for lands adjacent to the west and south of the project would not be downwind of either loading dock during prevailing westerly wind conditions. For these reasons, the release of diesel particulate into the atmosphere from trucks on the project site would have a less-than-significant impact on the health risks to nearby residents.

**Mitigation.** **No mitigation required.**

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**Impact J5.** **Emissions from Automotive Products. A number of products used in automobile maintenance and repair operations are considered hazardous materials, but none are classified as Toxic Air Contaminants (TACs); therefore, the project will not pose a health and safety threat from TACs. (Less-than-Significant Impact)**

As discussed in Section *II. K. Hazardous Materials*, which follows, the auto service shop proposed in conjunction with the Wal-Mart store will utilize petroleum-based products, cleaning agents and other fluids, many of which are considered hazardous materials. Three of the cleaners and solvents have been classified as Toxic Air Contaminants. In June 2001, the State of California adopted an Airborne Toxic Control Measure (ATCM) that controls certain chlorinated compound emissions from automotive consumer

products used in automobile maintenance and repair activities. The ATCM prohibits the use of perchloroethylene, methylene chloride and trichloroethylene in brake cleaners, engine degreasers, and general purpose degreasers sold, supplied, offered for sale or manufactured for use in California. It also prohibits the use of cleaners and solvents containing these compounds at automobile maintenance facilities or automobile repair facilities.

The above regulations and procedures, already established and enforced statewide, would ensure that any potential impacts due to project use of Toxic Air Contaminants would be reduced to a level of insignificance.

**Mitigation.** **No mitigation required.**

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**Impact J6.** **Restaurant Odors. The restaurant uses in the project could release cooking exhausts which could result in noticeable odors beyond project boundaries. (Significant Impact)**

The proposed project includes restaurants, which are a potential source of odors. Reaction to cooking odors varies widely with individuals. Some people find them objectionable, while others find them pleasant. Restaurant cooking odors have, in some instances, been the subject of complaints.

Since the nature of any restaurants and location of kitchen exhaust vents have not been determined, it is difficult to predict whether odors from project restaurants would cause problems. A potential for odor nuisance exists during light wind conditions. This is considered to be a potentially significant impact.

**Mitigation J6.** **All restaurant uses within the project shall be required, as a condition of approval, to locate kitchen exhaust vents in accordance with accepted engineering practice and shall install exhaust filtration systems or other accepted methods of odor reduction.**

The combination of dilution and odor removal through filtration would effectively reduce odor strength to undetectable levels.

**Significance after Mitigation: Less than Significant.**

## K. HAZARDOUS MATERIALS

The discussion in this section is largely based on the Phase I Environmental Site Assessment prepared by Twining Laboratories in December 2003. Twining's Phase I report includes a Limited Phase II Environmental Site Assessment for soil contamination. The Twining report is contained in Appendix J of this EIR.

### ENVIRONMENTAL SETTING

The Phase I assessment conducted by Twining Labs consisted of the following: visual inspections of the site and surrounding areas; reviews of historic aerial photographs and other property data sources; reviews of existing inventories maintained by federal, state and local agencies; and interviews with owners of the property. The limited Phase II assessment by Twining included soil sampling and testing to determine whether agricultural chemicals previously applied on the site are present in hazardous concentrations. The findings of the Twining reports are summarized below.

#### On-Site Conditions

The project site consists of vacant land in most recently cultivated for row crops such as alfalfa. A review of historical aerial photographs indicates that the site has been agriculturally developed since at least 1953, and the landowners indicate that the site was in agricultural use from about 1908 to 1999. No buildings are present on the site and none were observed in any of the historical aerial photos reviewed.

The property owners indicated that there is no current or former on-site hazardous materials use, storage, or disposal, and knew of no former above-ground or underground storage tanks, or disposal areas on the site. There are no known areas of the site where agricultural chemicals may have been stored or formulated.

The previous agricultural operations on the site included the use of pesticides and herbicides. Soil sampling and testing conducted by Twining Labs as part of the limited Phase II soil investigation indicated no detectable concentrations of agricultural chemicals in the soil.

There are two electrically powered irrigation water wells on the project site, one near the southwestern corner of the site, and the other near the northeastern corner of the site. While water wells are not an environmental concern themselves, they can provide a conduit for contaminants to enter the groundwater.

There are two pole-mounted transformers in the southern portion of the site that are owned and operated by PG&E. Given the age of the transformers, they have the potential to contain PCB (Polychlorinated biphenyl). No leaks or stains were observed in connection with the transformers during Twining's site reconnaissance. Any damage caused by leaking or damaged transformers would be the responsibility of PG&E, which indicated that most transformers with high PCB concentrations have been serviced to reduce PCB concentrations.

The site reconnaissance conducted by Twining Labs did not observe any other evidence of hazardous substances or wastes, solid waste, sumps or pits, pipes of unknown origin, surface indications of contamination (e.g., stressed vegetation, degraded pavement), or any other potential source of contamination.

The project site does not appear on any regulatory lists, records, or inventories of known contamination sites.

**Off-Site Conditions**

A review of regulatory lists by Twining Labs indicated that there are two noteworthy cases of site contamination in the project vicinity, as described below.

Beacon Service Station #696: Located at 2448 West Kettleman Lane, approximately 240 feet northeast of the project site, this service station had soil contamination resulting from leaking underground fuel storage tanks. The tanks were removed and the site was remediated and subject to follow-up groundwater monitoring and soil testing, to the satisfaction of the San Joaquin County Environmental Health Department and the Regional Water Quality Control Board - Central Valley Region. There is no information indicating that the impacted groundwater from beneath the service station has migrated to or toward the project site. Since the direction of groundwater flow is to the southeast away from the project site, the risk is low that groundwater contamination from this source has or will migrate to the project

Sunwest Liquors: Located at 2449 West Kettleman Lane, approximately 240 feet northeast of the project site, soil and groundwater contamination at this former service station site was discovered during the course of the removal of three underground gasoline storage tanks. Ongoing groundwater monitoring indicates that the groundwater beneath the service station site is still contaminated with petroleum hydrocarbons, BTEX (benzene, toluene, ethylbenzene, and xylenes), and MTBE (Methyl Tertiary Butyl Ether). Since the direction of groundwater flow is to the southeast away from the project site, the risk is low that groundwater contamination from this source has or will migrate to the project.

## REGULATORY SETTING

### General Plan

The following City of Lodi General Plan goal and policies on hazardous materials are relevant to the project:

***Section 9. Health and Safety Element***

Goal E: To protect Lodi residents from the effects of hazardous substances.

Policy 1. The City shall consider the potential for the production use, storage, and transport of hazardous materials in approving new development and provide for reasonable controls on such hazardous materials.

Policy 2. Within its authority, the City shall regulate the production, use, storage, and transport of hazardous materials to protect the health of Lodi residents.

## SIGNIFICANCE CRITERIA

For purposes of this EIR, the project would be considered to have a potentially significant hazardous materials impact if it would:

- Create a significant hazard to the public or environment through the routine transport, use, or disposal of hazardous materials.
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.
- Be located on a site which is included on a list of hazardous materials sites complied pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment.

## IMPACTS AND MITIGATION

**Impact K1.** **Existing Contaminant Sources. The PCBs in the existing transformers pose a potential health hazard; however, the transformers would be removed from the site, during the normal course of site development. The agricultural wells on the site could act as conduits for groundwater contamination; however, these wells would be properly destroyed prior to site development. (Less-than-Significant Impact)**

The existing pole-mounted transformers located in the southern portion of the site would be removed by PG&E during site development in conjunction with undergrounding of project utilities. This will remove the potential hazard from any PCBs contained in the transformers.

The two on-site wells will be properly destroyed in accordance with state regulations and the permit requirements of the San Joaquin County Environmental Health Department. This will eliminate the potential for the wells to act as conduits for hazardous materials to enter the groundwater beneath the site.

**Mitigation.** **No mitigation required.**

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**Impact K2.** **Hazardous Automotive Products. The petroleum-based products, cleaning solvents, car batteries, and other materials routinely used in conjunction with Wal-Mart's automotive service shop could pose a potential health and safety hazard; however, these materials would be handled and stored in accordance with existing state law requirements to minimize such potential impacts. (Less-than-Significant Impact)**

**Mitigation.** **No mitigation required.**

Under California Health and Safety Code Section 25503.5, any activity involving the handling of hazardous materials requires the establishment and implementation of a Hazardous Materials Business Response Plan. This process is administered by the San Joaquin County Environmental Health Department, and includes provisions for emergency response planning, double containment, monitoring, and financial responsibility.

**Impact K3.** **Sale of Household Hazardous Products. Household cleaners, fertilizers, pesticides, oil, automobile products, and other household hazardous materials would be sold by Wal-Mart and other retailers in the project. These products would be safely packaged to prevent harm to employees and consumers, and would be handled, stored, and transported in accordance with applicable federal, state, and local regulations. (Less-than-Significant Impact)**

**Mitigation.** **No mitigation required.**

The City of Lodi will require submittal of a hazardous materials inventory, along with all pertinent Material Data Safety Sheets, to the Lodi Fire Department, prior to issuance of building permits for each retail parcel.

# L. UTILITIES AND SERVICE SYSTEMS

This section describes existing conditions and addresses potential impacts to water demand and sanitary sewer service (storm drainage is discussed in Section *II. D. Hydrology and Water Quality*). This discussion is largely based on discussions with the City of Lodi Public Works Department staff.

## ENVIRONMENTAL SETTING

### Water Supply

The project site is vacant of structures and is not currently connected to domestic water service. There are two agricultural wells in northern and southern portions of the site which formerly provided irrigation water for the previous agricultural operation.

The Lodi Water Utility is the sole purveyor of domestic water in the City of Lodi. The Lodi Water Utility relies entirely on groundwater supplies pumped from 25 wells located throughout the city. Two new municipal wells are currently planned for the southwest portion of the City to meet projected increases in demand. One of these new wells, along with a one million gallon water storage tank, is planned for a site on the west side of Westgate Drive near West Kettleman Lane, across from the project site, to serve the west side of the City. The new well will be constructed in conjunction with the Vintner's Square project and water tank will be constructed as demands dictate.

The existing water supply system in the project vicinity includes a 10-inch main located on the east side of Lower Sacramento Road opposite the project site, and a 10-inch main extending east along West Kettleman Lane from Lower Sacramento Road. In addition, a new 10-inch main is being installed within the right-of-way of Westgate Drive, north of Kettleman Lane, and will be extended south across Kettleman Lane, in conjunction with the Vintner's Square project.

### Wastewater Collection and Treatment

There are no septic systems on the project site and the property is not currently connected to sanitary sewer service.

The existing City of Lodi sanitary sewer mains adjacent to the project site include a 21-inch main in Lower Sacramento Road, and a parallel 30-inch industrial waste line. These mains flow south to just past the southern project boundary where they increase in size to 48 inches and 30 inches respectively and then head southwesterly toward the City's wastewater treatment facility. In addition, a new 24-inch sanitary main is being installed within the right-of-way of Westgate Drive, north of Kettleman Lane, and will be extended south across Kettleman Lane in conjunction with the Vintner's Square project.

Wastewater treatment for the City of Lodi is provided at the White Slough Water Pollution Control Facility (WSWPCF) located five miles southwest of the project site on the east side of I-5. The facility is operated by the City Public Works Department and has design capacity of 8.5 million gallons per day (mgd) and a permitted capacity of 7.0 mgd, as specified by the Regional Water Quality Control Board. According to Del Kerlin, Assistant Water and Wastewater Superintendent for the City of Lodi, the WSWPCF currently treats wastewater flows of approximately 6.4 mgd, which represents 75 percent of design capacity and 91 percent of permitted capacity. The remaining permitted capacity is anticipated to accommodate urban growth in the City of Lodi for the next five years. In addition, the City is currently

constructing number of improvements, to be completed in late 2004, that are intended to increase the permitted capacity of the WSWPCF from 7.0 to 8.5 mgd, which will be adequate to treat wastewater flows generated at General Plan buildout. The treatment facility currently meets the water quality standards established for the Delta region by the Regional Water Quality Control Board.

## REGULATORY SETTING

### General Plan

The following City of Lodi General Plan goal and policies on utilities and service systems are relevant to the project.

***Section 3. Land Use and Growth Management Element***

Goal J: To maintain an adequate level of service in the City's water, sewer collection and disposal, and drainage system to meet the needs of existing and projected development.

Policy 1. The City shall develop new facilities, as necessary, to serve new development in accordance with the City's Water, Wastewater, and Drainage Master Plans.

Policy 2. The City shall assess water, wastewater, and drainage development fees on all new residential, commercial, office, and industrial development sufficient to fund required systemwide improvements.

## SIGNIFICANCE CRITERIA

For purposes of this EIR, the project would be considered to result in a significant impact to utilities and service systems if it would:

- Have insufficient water supplies available to serve the project from existing entitlements and resources.
- Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities or infrastructure, the construction of which could result in significant environmental effects.
- Result in a determination by the wastewater treatment provider which serves the project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.
- Exceed the wastewater treatment requirements of the applicable Regional Water Quality Control Board.

## IMPACTS AND MITIGATION

**Impact L1.** **Domestic Water Supply. The project would result in increased demand for domestic water service; however, existing water resources and infrastructure are adequate to serve the project. (Less-than-Significant Impact)**

It is expected that the project will have a domestic water demand rate of 0.10 gallons per square foot of floor area per day, a rate which is typically applied to commercial uses. Exterior water demand for landscaping irrigation is estimated to be about one-half the interior consumption rate, assuming the incorporation of water conservation measures into landscape design, as required by the City. This irrigation rate reflects higher applications of water needed in the first five years for the establishment of landscaping, after which irrigation requirements would decline by 15 to 20 percent. Based on these factors, it is estimated that the project would require approximately 32,931 gallons per day (gpd) for interior use and about 16,466 gpd for irrigation, for a total project water demand of 49,397 gpd.

According to City Engineer Wally Sandelin, the Lodi Water Utility has sufficient existing water supply to serve the project without adding new municipal wells or water storage facilities. Domestic water for the project will be conveyed to the site from the existing 10-inch main in Lower Sacramento Road and the new 10-inch Lodi Water Utility main to extended south within the right-of-way of Westgate Drive in conjunction with the project. These mains would be connected by a new 10-inch main that would run along the southern project boundary to complete a loop in this part of the municipal water system. These mains would feed new water lines to be constructed throughout the project site to provide domestic service and fire flows to individual retail pads. The final design for the water system would be determined by the Lodi Water Utility, with input from the Lodi Fire Department for fire service.

The existing agricultural wells on the site would be properly destroyed per the San Joaquin County Environmental Health Department requirements prior to site preparation and grading for development.

Based on the above discussion, existing water resources and infrastructure are adequate to serve the project. Therefore, the project would result in a less-than-significant impact upon water supplies and water services.

**Mitigation.** **No mitigation required.**

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**Impact L2.** **Wastewater Collection and Treatment. The project would increase the demand for wastewater collection, treatment and disposal facilities serving the site; however, there is sufficient capacity in the City's wastewater collection and treatment system to serve the project without expansion of existing infrastructure. (Less-than-Significant Impact)**

The wastewater generated by the project would be collected in new sewer lines to be installed throughout the project site and conveyed to the 24-inch sanitary main to be extended south within the right-of-way of Westgate Drive in conjunction with the project. This main would be extended south approximately 800 feet of the project site along the future southerly extension of Westgate Drive to join the existing 48-inch trunk line carrying flows to the City's White Slough treatment facility. Until the lands crossed by the 800-foot connecting pipe are developed, this connecting main will consist of an 8-inch pipe to serve only the proposed project and other approved development. As development to the south is approved per the City General Plan, this interim connecting sewer will be replaced by a permanent 24-inch main to serve adjacent development.

For purposes of estimating wastewater flows from the project, a generation rate of 0.10 gallons per square foot of building floor area was applied. This is the same rate applied to derive interior water demand (see 'Impact L1' above). Based on this factor, the wastewater generation for the project is estimated to average 32,931 gallons per day (gpd). According to City Engineer Wally Sandelin, the downstream sanitary main that would serve the project has sufficient remaining capacity to accommodate the wastewater flows added by the project.

The wastewater flows generated by the project would represent an increment of 0.5 percent to the average daily flows currently received by the City's wastewater treatment facility. Given that the treatment plant is currently operating at about 91 percent of permitted capacity, it has been confirmed by Mr. Sandelin that there is sufficient permitted treatment capacity to serve the proposed project. In addition, once the treatment plant improvements currently underway are completed in late 2004, it is expected that Regional Board will increase the permitted treatment flows to the 8.5 mgd design capacity, which will be sufficient to accommodate buildout under the General Plan.

As required of all development projects, the project would be required to pay a wastewater capacity fee to the City of Lodi.

In summary, there is currently sufficient capacity in the City's wastewater collection and treatment system to accommodate wastewater flows generated by project without expansion of existing infrastructure, apart from sanitary mains to be installed to serve the project. Therefore, the project would have a less-than-significant impact on wastewater services.

**Mitigation.** **No mitigation required.**

## M. PUBLIC SERVICES

This section describes existing conditions and addresses potential impacts to fire and police protection services, and solid waste collection and disposal. This discussion is largely based on information obtained from the respective service providers.

### ENVIRONMENTAL SETTING

#### Fire Protection Services

Fire protection for the project area is provided by the City of Lodi Fire Department. The Department has four fire stations and a staff of 59. The nearest station to the project site is Fire Station 4, located 0.8 miles north at 180 North Lower Sacramento Road. The other three stations are located at South Ham Lane and Arundel Court in south Lodi, at East Lodi Avenue and U.S. 99 in east Lodi, and on West Elm Street in central Lodi. The Departments response time goals are four minutes from receipt of the call and three minutes travel time. All firefighters are licensed Emergency Medical Technicians (EMTs) who are trained to provide basic emergency medical services. The City of Lodi has an Insurance Services Office (ISO) rating of Class 3, which indicates that the Fire Department has stations strategically placed throughout the City and has more than adequate personnel, equipment, and expertise to serve the current population. The City has mutual aid agreements with the Delta Fire Protection District and the Woodbridge Fire Protection District, who would respond to a call for assistance from the Lodi Fire Department.

#### Police Protection Services

Law enforcement services for the project site would be provided by the City of Lodi Police Department. The police force currently includes 78 sworn officers assigned to five police districts covering the City. The project site is located in the Southwest Police District where one to two units are assigned on to provide patrols around the clock. All patrol units are dispatched from police headquarters at 215 West Elm Street in central Lodi. Responses to emergency calls are handled by officers on patrol, and the response time for individual calls depends on the location of the patrol car and the priority of the call in terms of threat to life or property. According to the Lodi General Plan, the response time goals for the Police Department are three minutes for emergency calls and 40 minutes for non-emergency calls.

The California Highway Patrol (CHP) provides law enforcement and traffic safety services on State Route 12 (West Kettleman Lane) along the north project boundary, and is available to assist the Lodi Police Department during emergencies when requested.

The San Joaquin County Sheriff's Department provides law enforcement services to the rural and unincorporated areas of the County, including lands to the west and south of the project site, and is available to assist the Lodi Police Department during emergencies when requested.

#### Solid Waste

Solid waste collection and disposal service in Lodi is provided by Central Valley Waste Services, a subsidiary of Waste Management, Inc. Solid waste is taken to a transfer station and then hauled by large

transfer vehicles to the North County Landfill located eight miles east of Lodi on East Harney Lane. The North County Landfill is a Class III facility, which is owned and by San Joaquin County and operated by the Public Works Department, Solid Waste Division. The North County Landfill has a permitted capacity of 825 tons per day, and receives an average of 402 tons per day. Based on projected disposal rates, the landfill is expected to close in 2035.

Central Valley Waste Services also provides curbside recycling service for residential customers, and will contract with commercial customers to provide recycling bins and pick-up services.

## REGULATORY SETTING

### General Plan

The following City of Lodi General Plan goals and policies related to public services are relevant to the project.

***Section 9. Health and Safety Element***

Goal C: To prevent loss of lives, injury, and property damage due to urban fires.

Policy 1. The City shall promote the installation of automatic interior sprinkler systems in all new developments.

Policy 2. The City shall require new development to comply with minimum fire flow rates determined jointly by the City Fire Department and the Public Works Department.

Policy 7. The City shall endeavor through adequate staffing and station locations to maintain minimum feasible response time for fire and emergency calls. The goal for travel time by the fire department in responding to an emergency shall be 3 minutes. As areas are developed beyond the 3-minute standard, additional fire stations, capital equipment, and personnel shall be provided or alternative fire protection measures shall be required.

Policy 9. The City shall require attempt to offset the need for new fire department staff and equipment to improve fire safety by promoting the installation of built-in fire protection equipment in all new development.

Policy 10. The City shall assess development fees on all new residential, commercial, office, and industrial development sufficient to fund capital improvements and equipment required to provide fire protection.

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Goal D: To prevent crime and promote the personal security of Lodi residents.

Policy 1. The City shall promote the installation of security equipment aimed at crime prevention in new development.

Policy 3. The City shall encourage developers to incorporate site planning and structural design features that deter crime in new development.

Policy 4. The Lodi Police Department shall continue to participate in the development review process to ensure that crime prevention considerations are incorporated into the design of new development.

Policy 5. The City shall endeavor through adequate staffing and patrol arrangements to maintain minimum feasible police response time for police calls. The goal for average response time for emergency calls shall be 3 minutes and no longer than 40 minutes for nonemergency calls.

Policy 7. The City shall assess development fees on all new residential, commercial, office, and industrial development sufficient to fund capital improvements and equipment required to provide fire protection.

## SIGNIFICANCE CRITERIA

For purposes of this EIR, the project would be considered to result in a significant public services impact if it would:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services:

  a) Fire Protection;

  b) Police Protection; or

  c) Solid Waste Collection and Disposal.

- Impair implementation of, or physically interfere with an adopted emergency response plan or emergency evacuation plan.

## IMPACTS AND MITIGATION

**Impact M1. Fire, Police, and Solid Waste. The project would increase the need for fire and police protection services, as well as demand for solid waste collection and disposal service; however, these increased demands would not degrade service levels or result in the need for new or altered facilities. (Less-than-Significant Impact)**

Fire Protection

The project would increase overall demand for fire and first-response emergency medical services. The calls originating from the site would primarily involve suppression of structure fires, and medical emergencies related to automobile accidents or health conditions. The first responding units would be from Fire Station 4 on North Lower Sacramento Road, with Station 3 on South Ham Lane providing backup. According to Fire Chief Michael Pretz, Station 4 has adequate staff and equipment to serve the project, and would be able to respond to emergency calls from the site within the three-minute travel-time goal of the Department. In addition, Chief Pretz indicated that providing fire service to the project would not compromise the Department's ability to provide adequate services to other parts the City within its response time goals, and therefore would not cause the City's ISO rating of Class 3 to be downgraded to Class 4. In addition, the City assesses development impact fees on all new commercial development projects to fund capital improvements and equipment required to maintain an adequate level of fire protection and emergency services.

The project would be constructed in accordance with the fire protection requirements of the Uniform Building Code and the City of Lodi Fire Code. These codes require that the shopping center be designed and built to include fire alarms, sprinklers, extinguishers, hydrants, adequate water supply, fire walls, and other fire protection measures. The Fire Department and the Building Division would review the project site plan and building plans to ensure compliance with all code requirements.

City Engineer Wally Sandelin indicated that Lodi Water Utility's current water system can provide sufficient volume and pressure for fire suppression at the project from the existing main in Lower Sacramento Road.

The Lodi Fire Department is also responsible for emergency preparedness planning in the event of a disaster such as an earthquake, dam failure, major flood, and the like. Chief Pretz indicated that the project would not impair the implementation of, or physically interfere with emergency response or evacuation in the area. Since the City of Lodi has many escape routes leading to the surrounding countryside, the proposed project is not considered to pose a potential impediment to evacuation.

Police Protection

The proposed project would result in an increased demand for police services. The most frequent incidents requiring police involvement would likely be traffic violations, thefts, vandalism, loitering, and assaults.

According to Police Captain David Main, the Lodi Police Department and the Southwest Police District have adequate staff and equipment to respond to emergency calls generated at the project. In addition, Captain Main indicated that the project would not compromise the Police Department's ability to respond to emergency calls in other parts of the City.

The Police Department would also be involved in development review process for the project to ensure that crime prevention measures are included in the project design. These measures may include security alarms, surveillance equipment, security guards, adequate lighting for parking lots and walkways, and landscaping and building design to eliminate potential crime areas. In addition, the City assesses development impact fees on all new commercial development projects to fund capital improvements and equipment required to maintain an adequate level of police services.

Solid Waste

The amount of solid waste generated by the project would vary by individual retail tenant and type of business involved. However, a general estimate can be made based on solid waste generation data compiled by the California Integrated Waste Management Board. The rates cited that are applicable to the project include: department store – 3.12 lb/100 square feet per day; shopping center – 2.5 lb/100 square feet per day, and; supermarket – 3.12 lb/100 square feet per day. By conservatively applying the higher 3.12 lb rate to the total project floor area, it is estimated that the project would generate approximately 10,608 lbs (or 5.3 tons) of solid waste per day. Assuming that all of this waste was to be landfilled, this amount would represent approximately one percent of the average 402 tons of solid waste received daily by the North County Landfill. With the addition of solid waste from the project, the landfill would remain well within its permitted capacity of 825 tons per day. The incremental waste contributed by the project would not appreciably shorten the remaining life of the landfill. Moreover, a substantial portion of the solid waste generated by the project is expected to be diverted from the waste stream through recycling, so the project contribution to the landfill would be lower than the above estimate. Although the additional solid waste generated by the project would increase demand for disposal, according to the Public Works Department the project would not have a significant impact on remaining landfill capacity.

It is expected that the project tenants will contract with Central Valley Waste Services to provide recycling bins and pickup service, and that the individual retail buildings will be designed with sufficient space for recycling bins as well as trash bins. (It is anticipated that the City of Lodi will require these provisions as conditions of project approval.) It is expected that the waste oil generated by the Wal-Mart auto service shop would be stored on-site and regularly pumped out by a commercial collection and disposal service.

Solid waste and recycling pickup service to the project would be readily added to the existing commercial collection route serving the existing shopping centers in the immediate vicinity. The project itself is not likely to result in the need for Central Valley Waste Services to expand its staff and equipment. The addition of staff and equipment would occur incrementally as needed and would be fully financed from fees generated by new commercial customers. Therefore, the project would result in a less than significant impact to the solid waste collection and disposal service provider.

**Mitigation.** **No mitigation required.**

# III. CUMULATIVE IMPACTS

The California Environmental Quality Act (CEQA) Section 21083(b) requires that a project be identified as having a significant impact if its possible effects "...are individually limited but cumulatively considerable." The CEQA Guidelines Section 15355(b) states: "Cumulatively considerable means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects..."

The discussion of cumulative impacts may consist of either: "(A) A list of past, present or reasonably anticipated future projects producing related or cumulative impacts, including those projects outside the control of the agency, or (B) A summary of projections contained in an adopted general plan or related planning document which is designed to evaluate regional or areawide conditions." (CEQA Guidelines §15130(b).)

The proposed action consists of a Use Permit and related discretionary actions such as Site Plan and Architectural Review, Tentative and Final Map approval, Improvement Plan approvals, and building permits. Since the project does not involve a General Plan Amendment, the cumulative impact analysis should appropriately use the list approach to evaluate the cumulative effects of project construction. The City of Lodi has identified the projects which have been approved but not yet constructed, for use in the cumulative impact analysis. These cumulative projects, which include a broad range of residential, commercial, and public facility projects, are listed in Table 12 on the next page. Table 12 does not include residential subdivisions in far flung areas of the City which are almost built out and have only a few undeveloped lots remaining.

In addition to the approved projects listed in Table 12, a major annexation application has been filed with the City for an approximately 320-acre area adjacent to the project site on the south and west. Known as the Southwest Gateway Annexation, this area extends west one-half mile from Lower Sacramento Road and south from West Kettleman Lane to Harney Lane. The proposed annexation area includes a 48-acre unincorporated County area on the east side of Lower Sacramento Road, including the existing dwellings on both sides of Olive Avenue opposite the proposed project site. This area is included for annexation to avoid the unlawful creation of an unincorporated County island within the City of Lodi. Although no formal development application has been submitted for any portion of the annexation area, the City General Plan designates the lands for residential uses at a variety of building densities. A total of up to 1,600 dwelling units could ultimately be constructed in this area; however, any proposed development would be subject to the City's Growth Management Plan for Residential Development which limits the number of residential building permits issued City-wide to about 300 annually. Although no development applications have been submitted for the annexation area, the general development of this area for residential uses is "reasonably anticipated future project." As such, the cumulative effects of this development are considered in the following discussion.

According to City staff, there are no other currently pending applications for development projects that would warrant inclusion in the cumulative impact analysis. Likewise, there are no projects outside the control of the City of Lodi, i.e., unincorporated San Joaquin County, which could contribute to a considerable cumulative project effect.

**TABLE 12**

**LIST OF APPROVED DEVELOPMENTS**

| Project Name | Location | Size/Land Use |
|---|---|---|
| Lodi Storage | Lodi Avenue, west of Lower Sacramento Road | 78,345 s.f. mini-storage units |
| Mills Avenue Medical Offices | Mills Avenue, north of Kettleman Lane | 45,000 s.f. medical office |
| Target Expansion | Kettleman Lane, east of Lower Sacramento Rd | 2,741 s.f. shopping center |
| Tienda Public School | Tienda Drive, west of Mills Avenue | 75 students |
| Sunwest Professional Center | Kettleman Lane, west of Mills Avenue | 7,200 s.f. professional office |
| Westgate Plaza Expansion | Lower Sacramento Road, south of Lodi Avenue | 27,200 shopping center |
| Bezug Lane Properties | Tienda Drive, west of Lakeshore Drive | 7 residential units |
| Century Meadows One, Unit 2 | Harney Lane, east of Mills Avenue | 55 residential units |
| Century Meadows One, Unit 3 | Harney Lane, east of Mills Avenue | 74 residential units |
| Century Meadows Two, Unit 4 | Harney Lane, east of Mills Avenue | 60 residential units |
| Kirst Estates Unit No. 5 | Harney Lane, west of Mills Avenue | 6 residential units |
| Lalazar Estates | Lakeshore Drive, south of Kettleman Lane | 9 residential units |
| Legacy Estates Subdivisions | Harney Lane, west of Mills Avenue | 217 residential units |
| Mills Avenue Townhomes | Mills Avenue, south of Kettleman Lane | 12 residential units |
| Millsbridge II | Tienda Drive, west of Lakeshore Drive | 27 residential units |
| Sasaki Property | Tienda Drive, west of Lakeshore Drive | 2 residential units (duplex) |
| Sunwest Cottages | Tienda Drive, west of Mills Avenue | 9 apartment units |
| The Villas | Harney Lane, west of Highway 99 Frontage Road | 80 residential units |
| Vintner's Square | Northwest corner of Lower Sacramento Road and Kettleman Lane | 217,000 s.f. shopping center |

Source: City of Lodi, May 2004.

**Discussion of Cumulative Impacts**

Land Use and Planning: In terms of land use compatibility and compliance with General Plan and zoning, the proposed project and each of the cumulative projects are subject to the City's development review process through which significant land use impacts would be reduced to less-than-significant levels. Therefore, the proposed project would not contribute to a cumulative land use impact in terms of land use compatibility and compliance with General Plan and zoning.

In terms potential to result in socioeconomic impacts which in turn would result in an indirect land use impact such as physical deterioration or blight, it was determined in Section *II. A. Land Use and Planning*

that the proposed project would result in no such impact. The potential for a cumulatively substantial socioeconomic effect and consequent indirect physical impact to occur would primarily depend on the whether the other pending projects include retailers which would magnify or compound the competitive effect of the project in any retail category. Apart from Vintner's Square, the total retail floor area included in the cumulative projects is approximately 30,000 square feet, which is a relatively small number. The Vintner's Square project includes an approximately 167,000 square-foot Lowe's home improvement center and about 50,000 square feet of other retail uses, including fast-food restaurants. However, neither of the major retail categories in the proposed project, e.g., general merchandise and groceries, are represented in the other cumulative projects, including Vintner's Square, with the exception of minor expansions such as the 2,700 square-foot addition proposed for the nearby Target store. Therefore, it is unlikely that the combined effect of the project and the cumulative development would result in any business closures or building vacancies, much less physical deterioration of property, or blight. Therefore, the project would not contribute to a cumulatively considerable indirect physical effect.

Agricultural Resources: Since much of the vacant land in the Lodi planning area is prime farmland, the development of some of the larger pending and approved projects, including the Southwest Gateway Annexation area, would involve significant and unavoidable impacts to agricultural resources. The incremental loss of prime farmland at the project site would contribute to this impact which would be cumulatively considerable.

Since several of these projects are located at the leading edge of Lodi's urban growth, new urban/agricultural conflicts may be created at the urban/rural interface. These effects are considered to be largely mitigated on a case-by-case basis by the City requirement that the effects of agricultural operations be disclosed to buyers of property or applicants for building permits in the vicinity of agricultural operations. In summary, the cumulative effects of urban/agricultural conflicts are not considered to be cumulatively considerable, and the project would not contribute to such impacts.

Geology and Soils: Seismic hazards and adverse soil conditions are mitigated at the project-specific level through building code requirements and design recommendations of geotechnical engineers. While these measures would not completely avoid the potential for seismic damage, they would reduce the impact to less-than-significant levels at both the project level and the cumulative level. The addition of the less-than-significant geologic impacts associated with the project would therefore not contribute to a cumulative considerable geologic impact.

Hydrology and Water Quality: The collective increases in runoff from the development of the cumulative projects will be accommodated by existing stormwater basins in the City or through the construction of new ponding basins by the City and/or individual private development, as appropriate. Since the effects of increased storm runoff will be mitigated on a project-specific basis, the cumulative flooding impacts will not be considerable. The addition of incremental runoff from the project site likewise would be accommodated by a planned temporary stormwater basin in order to prevent increased flooding downstream. Thus the cumulative drainage and flooding effects of the project and other cumulative projects in the City would be mitigated to less-than-significant levels. Likewise, the potential water quality impacts resulting from soils erosion and urban pollutants would be mitigated on a project-specific basis for all cumulative projects, as required by the City and water agencies, and thus the cumulative water quality impacts would not be considerable. Therefore, the addition of the less-than-significant water quality impacts resulting from the project would not contribute to a cumulative impact.

Biological Resources: It is expected that any impacts of the cumulative projects on wetlands, riparian habitat, and mature trees will be mitigated on a project-specific basis, and that the combined effects of any remaining residual impact to these biological resources will not be cumulatively considerable. The project will have a less-than-significant impact on these resources, and therefore would not contribute to any cumulative effect. The project and the larger cumulative projects, including future development of the Southwest Gateway Annexation area, would have an adverse effect on habitat for protected species such as Swainson's hawk. This potential impact will be mitigated on a regional basis through the implementation of the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP), which provides for the payment of mitigation fees by development projects toward the acquisition and protection of habitat elsewhere in the County. As such, potential impacts associated with the project and the cumulative projects would be reduced to the less-than-significant levels on a project-specific basis through this mitigation program, and therefore the collective effect would not be cumulatively considerable.

Cultural Resources: The City of Lodi has a relatively low sensitivity for archaeological and paleontological resources. Potential impacts to cultural resources resulting from development pf the cumulative projects would be largely mitigated or avoided at the project level by feasible mitigations. The proposed project would avoid impacts to historic resources and would fully mitigate any impacts to previously undiscovered archaeological and paleontological resources. Therefore, the project would not contribute to cumulative impacts to cultural resources.

Aesthetics: Development of the cumulative projects would result in visual changes to the settings of most of the project sites. However, no recognized scenic resources would be adversely affected. Additionally, any negative aesthetic effects resulting from the design of individual projects would be mitigated on a case-by-case basis through the City's site plan and architectural review process. Therefore, the combined visual effect associated with development of the cumulative projects would not be considerable. As discussed in Section *II. G. Aesthetics*, the proposed project would not result in a significant visual impact. Therefore, project would not contribute to a cumulative visual impact.

Traffic and Circulation: As discussed in Section *II. H. Traffic and Circulation*, the traffic generated by approved but not yet constructed projects (as listed on Table 12) are included in the background or Near Term condition for evaluation of project impacts. Probable future projects, such as development of the Southwest Gateway Annexation area, are included in the General Plan buildout, or "cumulative" traffic analysis. Under both scenarios, no level of service impacts were identified for any intersections subject to project traffic, with the exception of the Lower Sacramento Road/Harney Lane intersection located south of the proposed project in the unincorporated County area. This intersection is currently operating at LOS F conditions, and project and cumulative traffic would exacerbate this condition. However, improvements are planned to this intersection which would result in acceptable LOS C conditions. The proposed project and other cumulative projects in the vicinity, including developments within the Southwest Gateway Annexation area, would be required to contribute their fair share to the cost of these improvements. After installation of the improvements, the cumulative traffic impacts would not be considerable, and the project contribution would likewise not be significant.

Noise: Since the effects of noise are highly localized, cumulative noise impacts could occur if there other projects in the immediate vicinity of the project which collectively result in increases in ambient noise levels. In this case, the proposed project and the Vintner's Square project across West Kettleman Lane would both generate substantial traffic which would increase noise levels on nearby streets and roadways. As discussed in Section *II. K. Noise,* since a change in community noise level of less than 3 dB CNEL is normally not perceptible to human hearing, an increase of at least this amount is required to constitute a

significant noise impact. The traffic from both the proposed project and the Vintner's Square project would result in a noise level increase of well under 1 dB for each project along the adjacent and nearby segments of West Kettleman Lane and Lower Sacramento Road. (A 3 dBA increase in noise levels generally results from a doubling of traffic volume. ) The added effects of traffic from other cumulative projects in the vicinity would be negligible since these projects are relatively small in size and would not contribute substantial traffic in relation to existing volumes on these roadways. Therefore, the cumulative noise increase on the nearby roadways would likely be in the range of 1 dB, and certainly no more than 2 dB, which would fall below the 3 dB increase required for a significant noise impact. Noise report in Appendix I indicates that even with traffic volumes associated with General Plan buildout, noise levels would increase by about 2 dBA on the nearby roadway segments of West Kettleman Lane, and about 1 dBA on the nearby roadway segments of Lower Sacramento Road. Therefore, even with the addition of the future buildout of the Southwest Gateway Annexation area, which is included in the noise evaluation of General Plan buildout, a cumulatively considerable noise impact would not occur. Therefore, the cumulative noise impact would not be substantial, and the project contribution likewise would be insignificant.

Air Quality: As discussed in Section *II. J. Air Quality*, the project itself would result in significant regional air quality impacts due to substantial emissions of ozone precursors and particulate matter. Since these emissions cannot be feasibly reduced to less-than-significant levels, this would represent a significant and unavoidable impact of the project. For the cumulative projects, it is unlikely that any of the individual projects (with the exception of the Vintner's Square project and the future buildout of the Southwest Annexation Area) would result in a significant regional air quality impact on a project-specific basis. However, the combined emissions of the cumulative projects would be cumulatively considerable. This cumulative effect would be somewhat offset by stricter emissions standards, reformulated fuels and improved fuel efficiency, which would eventually result in lower overall levels of air pollution. However, until these measures take effect and substantially reduce emissions over time, the combined emissions of the project and other pending and approved projects, would result in a cumulatively significant and unavoidable impact to air quality. During their construction phases, the cumulative projects would generate dust, although these effects are generally localized and would be largely suppressed through required dust abatement measures. There could be a concern with dust emissions if two large adjacent projects, such as the Vintner's Square project and the proposed project, were to undergo site grading at the same time; however, the Vintner's Square project will likely be largely completed and operational before grading at the proposed project site would commence. Therefore, cumulative dust emissions would not be considerable, and project would contribute to a cumulative dust impact.

Hazardous Materials: Some of the cumulative project sites may contain residual contamination from previous land uses such as agricultural operations. However, site assessments required for each project site would identify remediation requirements to be implemented prior to construction, which would reduce the individual project impacts to less-than-significant levels. Any development that would involve storage and handling of significant quantities of hazardous materials would be subject to strict controls under state, federal law, and local regulations. Therefore, the potential for unauthorized releases of hazardous materials resulting from development of the cumulative projects would be low and would not be cumulatively considerable. The project site is not subject to known sources of contamination, and would be subject to strict regulatory control of hazardous materials used in Wal-Mart's auto service shop. Therefore, the project would not contribute to a cumulative hazardous materials impact.

Utilities and Service Systems: There is sufficient wastewater collection and treatment capacity available to serve the needs of all of the approved and pending cumulative projects, although development of the Southwest Gateway Annexation area would likely require completion of treatment plant improvements,

currently under construction, which would increase the permitted treatment capacity of the City's White Slough treatment facility. However, the increase in permitted capacity is likely to be approved by the Regional Board prior to development of the Southwest Annexation Area. Water supply infrastructure such as wells and storage facilities would be added as needed in conjunction with cumulative growth. Thus collective service demands of the cumulative projects would not result in cumulatively considerable effects to these services. The minor service demands resulting from the project would not contribute to a cumulative impact to utilities and service systems.

Public Services: Added demands placed by the approved and pending cumulative development on fire and police protection services, as well as solid waste collection and disposal services, would be accommodated by incremental increases in service capacity. These improvements would be funded through development fees and property and/or sales taxes revenue generated by the cumulative developments, or through user fees in the case of solid waste service. For the full development of the Southwest Gateway Annexation Area, it is possible that some physical improvements to service facilities, such as construction of a new fire station, may be required. However, any such physical improvements would be subject to environmental review which would ensure that potential impacts are avoided or fully mitigated. Thus it is not expected that the project, combined with other approved, pending, and probable future developments, would have a cumulatively considerable effect on public services. The minor demand for public services generated by the project would not contribute to a cumulative impact to public services.

In summary, the development of the identified approved, pending, and probable future projects, in addition to development of the proposed project, would result in cumulatively significant impacts to agricultural resources and regional air quality. Since these impacts cannot be feasibly mitigated to less-than-significant levels, these effects would represent significant and unavoidable cumulative impacts.

# IV. ALTERNATIVES TO THE PROPOSED PROJECT

## A. OVERVIEW

The CEQA Guidelines, at §15126.6(A), stipulate the following with respect to consideration and evaluation of project alternatives:

> An EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives.

This chapter includes the following discussions related to project alternatives: the factors applied in selecting alternatives for evaluation; identification of the alternatives considered for evaluation and discussion of the rationale for including or not including them in the detailed alternatives analysis; and description and evaluation of the environmental impacts associated with the selected project alternatives, including discussion of the ability of each alternative to meet the project objectives. The discussion of individual alternatives is followed by a summary discussion which compares the relative impacts of each alternative to those of the project, and identifies the environmentally superior alternative as required by CEQA.

## B. SELECTION OF ALTERNATIVES TO BE EVALUATED

### Factors Applied in the Selection of Project Alternatives

The CEQA Guidelines state that an EIR should briefly describe the rationale for selecting the alternatives to be discussed, should identify the alternatives that were considered by the lead agency but were rejected as infeasible, and should briefly explain the reasons underlying the lead agency's determination (CEQA Guidelines §15126.6(c)).

The alternatives addressed in this EIR were selected in consideration of one or more of the following factors:

- The extent to which the alternative would accomplish most of the basic objectives of the project (see Section *I. C. Project Objectives*).
- The extent to which the alternative would avoid or lessen any of the identified significant effects of the project.
- The feasibility of the alternative, taking into account site suitability and parcel size, and consistency with applicable public plans, polices, and regulations.
- The appropriateness of the alternative in contributing to a "reasonable range" of alternatives necessary to permit a reasoned choice; and

**Range of Alternatives Considered**

The following is a brief description of project alternatives considered, along with the rationale for including or not including each for further evaluation.

No Project Alternative

The CEQA guidelines require evaluation of the "no project" alternative in order "to allow decisionmakers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project" (CEQA Guidelines §15126.6(e)). Therefore, detailed evaluation of the "no project" alternative is included in the analysis.

Alternative Land Use

Alternative land uses that could be considered for the project site might include business park/office commercial or residential development. The General Plan designation of "NCC Neighborhood/Community Commercial" would not permit business park/general office development but would permit multifamily residential development. However, the project site lies within the "C-S Commercial Shopping" zoning district, the stated purpose of which is "...to permit the development of commercial shopping facilities in locations outside the central business district." Residential development is specifically prohibited in this zoning district. Therefore, no land uses other than shopping center would meet the selection factor of consistency with local plans, policies, and regulations. As such, alternative land uses for the project site were not considered for further evaluation in the alternatives analysis.

Reduced Density Alternative

Project alternatives which consider the reduction of project density are often included in alternatives analyses as a means of reducing impacts such as traffic to less-than-significant levels. Such alternatives are typically considered for higher density residential projects where the reduced density alternative would provide a meaningful alternative for comparison. For residential development, a given land area can be considered for a lower intensity of development since housing types are available for feasible development at low, medium or high housing densities. However, retail shopping center development lacks the flexibility of residential development and is limited to a narrow range of building types and intensities. In suburban settings such as in Lodi, feasible retail shopping center development is limited to single-story construction, and building coverages are effectively limited to about 25 percent of site area, as dictated by parking, circulation, and landscaping requirements. (It should be noted that the development intensity reflected in the project is consistent with General Plan limits on Floor Area Ratio, and with zoning limits on building coverage.) To represent a meaningful alternative under CEQA, the development intensity would need to be substantially reduced from that proposed. A project alternative with a distinctly lower building intensity would have substantially reduced floor area and parking, and substantially increased landscaped areas. However, such a reduced intensity retail shopping center would not be economically feasible and would not be developed. Moreover, even an alternative reflecting half the development intensity of the project would not reduce the two significant unmitigated impacts of the project (e.g., agricultural resources and regional air quality) to less-than-significant levels. In terms of land use planning, this alternative represents an inefficient use of land and would not diminish the overall demand for commercial retail space but would merely shift the development

pressure to other lands. This alternative would also be inconsistent with City policies which promote compact and efficient development patterns, particularly in order to minimize conversion of agricultural land and to make most efficient use of the City's capital investments in urban infrastructure. Therefore, a project alternative reflecting a reduction in development intensity was not given further consideration.

Reduced Project Size

In general, the only feasible way to reduce the intensity of shopping center development is to reduce the acreage of the development area. In this case, the consideration of such an alternative may indicate a reduction in the level of impacts, albeit not to less-than-significant levels, but would ultimately be illusory since it would ignore the remaining acreage on the property which can still developed for shopping center land use under the applicable General Plan designation and zoning district. In addition, for a shopping center with a major anchor tenant, such as the proposed project, the potential reduction of acreage would be limited due to the minimum development area required for feasible development. As stated in Section *I. C. Project Objectives*, a minimum site size of approximately 30 net acres would be required for feasibility of the proposed project. The net development area of the proposed project is about 33 acres. An alternative consisting of a reduced project size with only three fewer acres, or 90 percent of the proposed site area, would not represent a meaningful alternative under CEQA since it would not result in a substantial reduction or avoidance of significant impacts. Therefore, a reduced project size alternative was not selected for further consideration.

Nevertheless, in order to present an alternative that would allow comparison of the project with a lower level of development, the Reduced Project Size alternative was selected for further evaluation. This alternative is described in greater detail under 'Reduce Project Size Alternative' below.

Alternative Project Location

As noted under 'Overview' above, CEQA requires the consideration of alternatives to the location of a project. Regarding alternative locations, Section 15126.6(f)(2)(A) of the CEQA Guidelines states:

> "The key question and first step in the analysis is whether any of the significant effects of the project would be avoided or substantially lessened by putting the project in another location. Only locations that would avoid or substantially lessen any of the significant effects of the project need be considered for inclusion in the EIR."

In considering alternative locations for the proposed project, the initial task was to identify any suitably sized parcels which have the appropriate General Plan designation for shopping center development. According to the City staff, the largest undeveloped parcel where shopping center development would be permitted is an approximately 23-acre site (with a net developable area of about 20 acres) located on the east side of the City. Since this property would not meet the minimum site area of 30 net acres required for project feasibility, it would not meet one of the basic project objectives, as set forth in Section I. C of this EIR. (Additionally, this site also consists of prime farmland, and even a 20-acre shopping center would result in significant and unavoidable regional air quality impacts. Therefore, apart from not meeting the minimum project area requirement, this site would not avoid either of the two significant and unavoidable impacts associated with the proposed project site.) As such, it was concluded that there are no suitable or feasible alternative locations for the proposed project within the Lodi planning area. Under CEQA Guidelines Section 15126(f)(2)B), no analysis of alternative locations is required if no feasible alternative locations exist.

Nevertheless, in order to present an alternative which would allow a comparison of locations, an alternative project site was identified in the unincorporated area of San Joaquin County which would meet most of the basic objectives of the project. The selected site consists of approximately 36 gross acres in the northeast quadrant of Highway 12 and Thornton Road, just east of I-5. This alternative location is described and evaluated in greater detail under 'Alternative Project Location' below.

Summary

Based on the above preliminary evaluation of potential project alternatives, the following alternatives were selected for further discussion and analysis:

1. No project alternative;

2. Reduce Project Size alternative;

3. Alternative Project Location (northeast quadrant of Highway 12 and Thornton Road)

These alternatives to the proposed project are described and evaluated in turn below.

## C. NO PROJECT ALTERNATIVE

The CEQA Guidelines state: "[t]he 'no project' analysis shall discuss existing conditions...as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved..." (Section 15126.6(e)(2)) (emphasis added). This section would require the discussion of two 'no project' alternatives: the 'no build' alternative and the 'reasonably foreseeable development' alternative, in cases where these are not the same scenario. In this case, if the proposed project were not to move forward, it is unlikely that any other form of development would occur here. This is due to the strong land use policies and controls in place which restrict the permitted land uses to retail shopping center development. Therefore, in this case both the 'no development' and the 'reasonably foreseeable development' variants of the 'no project' alternative are actually the same scenario, i.e., the no build scenario.

The No Project alternative consists of not building on the project site and possibly resuming agricultural cultivation of the property for oats, hay, or row crops. The potential impacts of this alternative are discussed below, relative to the impacts associated with the proposed project.

Land Use and Planning: There would be no change in land use under the No Project alternative, and the conversion of the site to urban uses would not occur. Although the proposed project would not result in significant land use impacts, the No Project alternative would result in no impact.

Agricultural Resources: The No Project alternative would avoid the conversion of the prime farmland of the project site to urban uses, which is a significant unavoidable impact of the proposed project.

Geology and Soils: Under the No Project alternative, the exposure to potential geologic and soils impacts associated with the proposed project, while not significant, would be avoided.

Hydrology and Water Quality: There would be no increase in storm runoff under the No Project alternative, and the erosion impacts and potential for nonpoint pollution of surface water from urban pollutants would be avoided. While these impacts are fully mitigated under the proposed project, they are completely avoided under the No Project alternative.

Biological Resources: The No Project alternative would avoid potential biological impacts associated with project development, such as removal of foraging habitat for protected species such as Swainson's hawk. While such impacts would be fully mitigated under the proposed project, they would be completely avoided under the No Project alternative.

Cultural Resources: Since there are no known historic, archaeological or paleontological resources present on the site, there would be no impacts to cultural resources associated with the proposed project. Although the potential always exists that previously unknown cultural resources could be encountered during project development, any such impacts would be mitigated through implementation of standard contingent mitigations. Under the No Project alternative, the potential impacts to cultural resources would be avoided.

Aesthetics: Under the No Project alternative, there would be no visual change to the site. The proposed project would change the character of the site from rural to urban, although the implementation of the City's Design Standards for Large Retail Establishments, as well as the City's Site Plan and Architectural Review process would ensure that any aesthetic impacts of the project would be less than significant. While the visual impacts of the project would not be significant, the No Project alternative would avoid visual changes to the site altogether.

Traffic and Circulation: The No Project alternative would result in no change in the very low levels of traffic generated at the site under current conditions. The proposed project would generate substantial traffic volumes along roadways in the vicinity. Although the impacts of the project-generated traffic would be mitigated by improvements to the transportation network, the additional traffic would still represent a substantial difference from the No Project alternative.

Noise: The No Project alternative would generate no detectable traffic noise although noise would occasionally be produced by cultivation, harvesting and other agricultural activities. Although the proposed project would result in increased traffic noise, the resulting noise levels would not represent a noticeable increase over existing noise levels on the nearby roadways. Noise generated by on-site project activities would be less-than-significant for most noise sources, and would be mitigated to less-than-significant levels for potentially significant noise sources. Although the project would result in some noise generation, albeit not significant, the No Project alternative would result in generally lower noise levels.

Air Quality: Assuming the project site would be returned to agricultural use under the No Project alternative, some dust generation and emission of engine exhaust from farm machinery would occur under this no build scenario. The emissions associated with the proposed project would be substantially greater, and would exceed applicable standards for ozone precursors and particulate matter. This is a significant and unavoidable air quality impact of the project that would be avoided under the No Project alternative.

Hazardous Materials: Since there are no known contaminant sources on the project site, there would be no impacts from hazardous materials associated with either the No Project alternative or the proposed project. The auto service shop proposed for the Wal-Mart store would involve the use of hazardous petroleum products and solvents, although these would all be handled and disposed of in accordance with applicable regulations. Under the No Project alternative, the use of such materials would be avoided altogether.

Utilities and Service Systems: As a commercial development, the project would not be a heavy water user. Water demand for the project is estimated to be approximately 1.5 acre-feet per acre per year, compared with 1 or 2 acre-feet per acre per year for irrigation of hay or oat crops. Although the project would require about the same water supply as the No Project alternative, direct comparison is tenuous since water supplies for urban users are typically pumped from deep aquifers, while agricultural wells tend to draw from the shallower aquifers. Since project water demand can be readily accommodated by the Lodi Water Utility, there would be no water supply impacts associated with the project. Thus there would not be a significant difference in impact between the proposed project and the No Project alternative in terms of water supply.

Under the No Project alternative, there would be no demand for wastewater collection and disposal. Under the proposed project, the retail stores would be relatively low wastewater generators and would not result in significant impacts to the City's sanitary sewer system or wastewater treatment facilities.

Public Services: The increased demand for fire protection, police service, and solid waste collection and disposal service would not be significant for the proposed project, but would be avoided under the No Project alternative.

In summary, the No Project alternative would avoid some of the significant unmitigable effects of the proposed project, such as conversion of prime farmland and regional air quality impacts. For all other areas of concern, the differences in impacts between the No Project alternative and the proposed project would not be significant because the project impacts could be reduced to less-than-significant levels through feasible mitigation measures. On balance, the No Project alternative would be superior to the proposed project because it would not result in the significant unavoidable impacts to agricultural resources and air quality which are associated with the proposed project, and because it would result in little or no impact in the other impact categories. The No Project alternative was not selected by the applicant because it would not fulfill the project objective of developing the site with a regional shopping center in conformance with applicable General Plan policies and zoning and regulations. Nor would it fulfill the City's objective of enhancing its fiscal resources through sales tax and property tax revenues that would be generated by the project, or the objectives of creating new jobs or reversing retail sales leakage.

## D. REDUCED PROJECT SIZE ALTERNATIVE

This alternative would consist of a substantially reduced project site of approximately 24 acres, including about 22 gross acres for retail development and 2 acres for the stormwater basin. This would represent approximately 60 percent of the proposed project size of 40 acres. Although this reduced project size would not meet the stated objective of the applicant for a minimum 30-acre project size, it is assumed for purposes of this analysis that the proposed Wal-Mart supercenter could be constructed on a site of this size. However, none of the other retail pads proposed for the project would be included in this alternative. It is further assumed that the reduced project site would consist of a roughly square parcel (measuring approximately 1,000 feet square) at the intersection of Kettleman Lane and Lower Sacramento Road.

The impacts associated with development of the Reduced Project Size alternative are discussed below and compared to the impacts of project development at the proposed location.

Land Use and Planning: Since the Reduced Project Size alternative would include the same land use as the proposed project, it would also be consistent with the governing General Plan and zoning designations for the site. The reduced alternative would not be as close to the existing residential development on Olive

Avenue, and as such would not raise land use compatibility issues, although the project as proposed is not incompatible with the existing residences under the proposed site design. The reduced size alternative also would be adjacent to future commercial retail development to the south and west, unlike the proposed project which is adjacent to lands designated for residential use in the City's General Plan. Although the proposed project as designed would not be incompatible with these future adjacent residential uses, sound walls and other design measures are needed to minimize adjacency impacts. The Reduced Project Size alternative would have no potential conflicts or compatibility issues with future adjacent commercial development and would not require design measures to improve land use compatibility. As such, the Reduced Project Size alternative would result in a lower level of land use impact to surrounding uses compared to the proposed project, although the impacts would not be significant for either alternative.

Agricultural Resources: The Reduced Project Size alternative would result in the conversion of about 24 acres of prime agricultural land to urban uses. While the acreage converted would be less than the 40 acres to be converted under the proposed project, the impact would still be significant and unavoidable under this alternative. Nevertheless, given the lower acreage involved, the Reduced Project Size alternative would result in a relatively lower magnitude of impact to agricultural resources compared to the proposed project.

Geology and Soils: All geologic, soils, and seismic conditions and hazards affecting both the proposed project and the Reduced Project Size alternative would be mitigated to less-than-significant levels through geotechnical engineering measures. There would be no substantial difference between the proposed project and the Reduced Project Size alternative with respect to geology and soils impacts.

Hydrology and Water Quality: Although the Reduced Project Size alternative would result in lower volumes of stormwater runoff than the proposed project, the drainage impacts of both alternatives would be mitigated to less-than-significant levels through the construction of appropriately-sized stormwater basins. The erosion impacts and potential for nonpoint pollution of surface water from urban pollutants would be similarly mitigated for both alternatives. As such, there would be no substantial difference between the proposed project and the Reduced Project Size alternative in terms of hydrology and water quality impacts.

Biological Resources: The Reduced Project Size alternative would result in the removal of less foraging habitat for protected species such as Swainson's hawk than would occur under the proposed project. However, since this impact would be fully mitigated under both alternatives, there is no substantial difference in impact between the proposed project and the Reduced Project Size alternative regarding biological resources.

Cultural Resources: Since there are no known historic, archaeological or paleontological resources present on the site, there would be no impacts to cultural resources associated with either alternative. In the event of discovery of previously unknown resources on the site, contingent mitigations to be applied would reduce impacts to less-than-significant levels for both alternatives. As such, there is no substantial difference in impact between the proposed project and the Reduced Project Size alternative with respect to cultural resources.

Aesthetics: The proposed project would change the character of the site from rural to urban, although the implementation of the City's Design Standards for Large Retail Establishments, as well as the City's Site Plan and Architectural Review process would ensure that any aesthetic impacts of the project would be less than significant. Although the Reduced Project Size alternative would involve the conversion of 16 fewer acres of rural land to urban uses, the overall aesthetic effect would not be substantially different from that of

the proposed project, and would ultimately not be significant in either case. As such, there is no substantial difference in aesthetic impact between the proposed project and the Reduced Project Size alternative.

Traffic and Circulation: The Reduced Project Size alternative with only a Wal-Mart supercenter would generate approximately two-thirds traffic that would result from the proposed project. (Although the Reduced Project Size would represent 60 percent of the proposed project acreage, it would generate 66 percent of the traffic estimated for the proposed project due to the higher net trip generation rate for Wal-Mart compared to the other retail and restaurant uses planned for the proposed project.) The lower traffic generation would likely result in less traffic congestion in the vicinity in the near-term, although the proposed project would not result in significant traffic impacts with the implementation of proposed improvements to the transportation system to be implemented in conjunction with the proposed project. Moreover, under cumulative conditions with General Plan buildout, the remainder of the proposed project site would be developed with commercial retail uses in any event, so there would be no difference in traffic impacts between the two alternatives beyond the near-term future.

Noise: For the proposed project, noise generated by on-site project activities would be less-than-significant for most noise sources, and would be mitigated to less-than-significant levels for potentially significant noise sources. The areas subject to potential noise impacts include existing and future residential development to the southeast, south and west of the site. Under the Reduced Project Size alternative, the project would not be as close to these residential uses so the potential for operational noise impacts would not likely arise. Therefore, the Reduced Project Size alternative would result in slightly lower levels of noise impact compared to the proposed project alternative, although all potential noise impacts would ultimately be less than significant under both alternatives.

Air Quality: The emissions associated with the proposed project would substantially exceed applicable standards for ozone precursors and particulate matter, which is a significant and unavoidable regional air quality impact of the project. The Reduced Project Size alternative would represent a reduction of these emissions by approximately one-third. However, the resulting emissions levels would still far exceed the applicable standards. As such, the Reduced Project Size alternative would lessen but not avoid the significant and unavoidable regional air quality impacts associated with the project.

Hazardous Materials: Since there are no known contaminant sources on the project site, there would be no impacts from hazardous materials associated with either the proposed project or the Reduced Project Size alternative. In both cases, the auto service shop proposed for the Wal-Mart store would involve the use of hazardous petroleum products and solvents, although these would all be handled and disposed of in accordance with applicable regulations. As such, there is no substantial difference in terms of hazardous materials impact between the proposed project and the Reduced Project Size alternative.

Utilities and Service Systems: As a commercial development, the proposed project would not be a heavy water user and would be a relatively low generator of wastewater. Since project demands for domestic water service and wastewater collection and treatment can be readily accommodated by existing facilities, the project would not result in a significant impact to these utilities and service systems. Although the Reduced Project Size alternative would generate a proportionately smaller demand for these services, the reduction would be inconsequential to the service providers. As such, there is no substantial difference between the proposed project and the Reduced Project Size alternative in terms of impacts to utilities and service systems.

Public Services: The increased demand for fire protection, police service, and solid waste collection and disposal service would not be significant for the proposed project, and likewise would not be significant for the Reduced Project Size alternative. As such, there is no substantial difference between the proposed project and the Reduced Project Size alternative in terms of impacts to public services.

In summary, the Reduced Project Size alternative would result in a slight reduction in the levels of impact associated with the proposed project in several topic areas, although these impacts would be mitigated to less-than-significant levels under the proposed project. For the two significant and unavoidable impacts associated with the proposed project – impacts to agricultural resources and regional air quality – the Reduced Project Size alternative would lessen these impacts but would not avoid them or reduce them to less-than-significant levels. Although the Reduced Project Size alternative would be slightly superior to the proposed project, it would not achieve the CEQA objective of avoiding the significant impacts associated with the project. The Reduced Project Size alternative was not selected by the applicant because it would not fulfill the project objective of a 30-acre minimum project size needed for project feasibility. It also would be substantially less effective than the proposed project in fulfilling the City's objective of enhancing its fiscal resources through sales tax and property tax, or in meeting the objectives of creating new jobs and reversing retail sales leakage.

## E. ALTERNATIVE PROJECT LOCATION

As discussed previously in this chapter, an alternative project location in the unincorporated area of San Joaquin County at the northeast quadrant of Highway 12 and Thornton Road was selected for evaluation and comparison with the proposed project site (see Figure 10). To allow direct comparison, it was assumed that a 36-acre portion of the lands at this location would be developed with roughly the same land use configuration and intensity as the proposed project. Since the roadway frontages at the alternative site would be to the west and south of the site, it is further assumed that the site layout would be an inverted mirror image of that presented in proposed project site plan (i.e., the Wal-Mart store would be located in the northeast portion of the site and would face west). The only exception would be that the alternative project would wrap around the existing Burger King located on a small parcel at the northeast corner of Highway 12 and Thornton Drive.

The alternative site is largely in cultivation for grapes, and is absent of buildings and structures. The site is adjacent to the highway commercial complex at Flag City on the east side of I-5. Nearby land uses at the Flag City complex include: the Flying J truck stop on the west side of Thornton Road, opposite the alternative site; and a hotel, three fast food outlets, and two gas stations in the southwest quadrant of Highway 12 and Thornton Road, diagonally opposite the alternative site to the southwest.

The alternative site (hereinafter also referred to as the 'Flag City site') would meet the objectives of the project applicant for a minimum site area of 30 net acres, and site location on an existing highway in proximity to an existing commercial center.

The existing County General Plan designation for the most of the alternative site is 'General Agriculture' and the zoning is 'Agriculture (AG-40)', although several small parcels with frontage on Thornton Road have General Plan designations of 'Commercial Freeway Service' and are also zoned for highway commercial. For purposes of this analysis, it is assumed that amendments to the County General Plan and Zoning Ordinance would be approved on the agriculturally designated and zoned portions of the site to allow the project. Additionally, it is assumed that the site would be annexed to the County Service Area 31 which provides the other commercial uses in Flag City with domestic water supply, wastewater collection

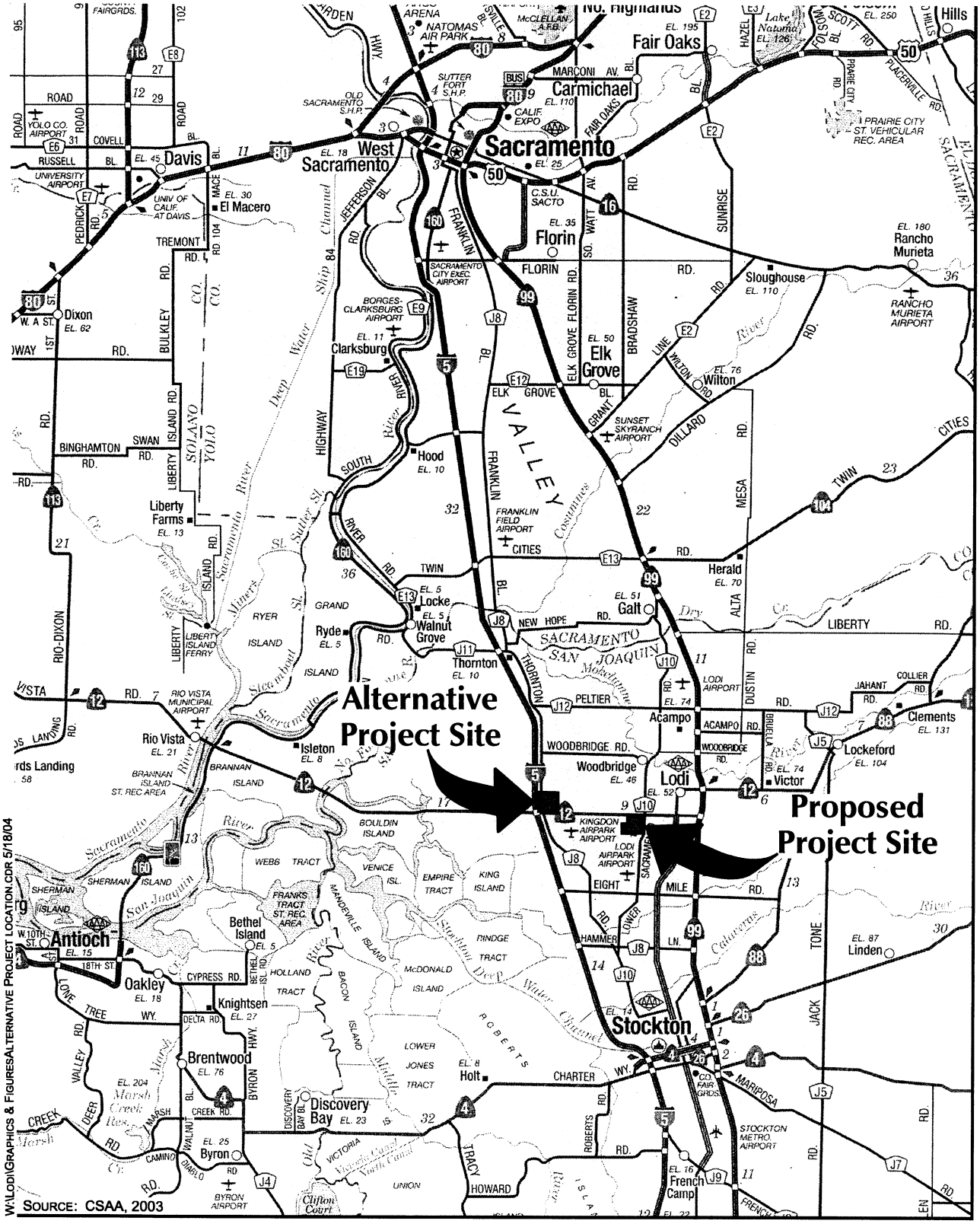


FIGURE 10
ALTERNATIVE PROJECT LOCATION



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and disposal service, stormwater drainage facilities, and street lighting. Although commercial development of this site would be contrary to the County's policies of preserving agricultural land and directing growth to established urban areas, a case could be made that due to the site's contiguity with existing highway commercial uses and the availability of urban services, that it would not be an unsuitable location for revenue generating retail development needed to support County services.

The impacts associated with development of the proposed shopping center at the Flag City site are discussed below and compared to the impacts of project development at the proposed location.

Land Use: A shopping center developed at the Flag City site would not be consistent with the San Joaquin General Plan which designates this property as 'General Agriculture', and would not be consistent with the applicable Agriculture (AG-40) zoning district. The conversion of the site to urban uses would also not be consistent with the County's broad policies of encouraging preservation of agricultural land and of directing urban land uses to established urban centers. Development of the project at the Flag City site could weaken the effectiveness of these policies by setting a precedent for such land use approvals and encouraging similar conversion of agricultural land in adjacent areas and elsewhere in the County. As such, this alternative would result in potential growth inducement. By comparison, the proposed project site is consistent with applicable General Plan and zoning designations, and would require no amendments. Moreover, the proposed project fulfills the City's policy objective of completing the development of the four corners of West Kettleman Lane and Lower Sacramento Road with retail development. Thus from a land use policy perspective, the location of the project at the Flag City site would have a negative impact, particularly due to its potentially growth-inducing impact, which is an impact that is not associated with the proposed project site.

If the project were developed at the Flag City site, it would be compatible with the adjacent highway commercial uses to the west and southwest, and would not be incompatible with the agricultural operations to the north and east. Since the adjacent lands are in vineyards, dust from plowing activities would occur rarely. In addition, the Flag City site is generally upwind of nearby agricultural lands, and the planned shopping center uses would be relatively insensitive to dust. Although pesticides would be applied to the vineyards, the application would not likely be by aerial spraying, given the proximity of other commercial development. Therefore, the potential for pesticide drift would be minimal. The proposed project site would be compatible and complementary to the adjacent commercial retail uses to the north and east, and would not be incompatible with the adjacent agricultural operations, for the same reasons noted above for the Flag City site. In summary, the surrounding land uses are similar at both the Flag City site and proposed project site, and the land use compatibility impacts would be less than significant in both cases.

In terms of socioeconomic impacts due to increased retail competition, the Flag City site may result in somewhat less in the way of lost sales for existing Lodi businesses compared the proposed site, given the distance of the Flag City site from Lodi. However, no indirect physical impacts would result from the project at either location, so there would be little or no difference between the sites in this respect.

In summary, the physical land use impacts of the project would be similar for both the proposed site and the Flag City site. However, the negative impacts to land use policy associated with the Flag City site would not result from development of the proposed project site.

Agricultural Resources: The soils of the Flag City site consist entirely of Acampo sandy loam, which is designated Class II when under irrigation and Class IV when not irrigated. Therefore, both the Flag City

site and the proposed project site would result in conversion of the prime farmland to urban uses, an unavoidable significant impact under both alternatives. However, since the Flag City site is currently in cultivation for grapes and is under a Williamson Act Land Conservation contract, its value as agricultural land is arguably greater than that of the project site, which has not been in agricultural production for several years and has no Williamson Act contract. As such, the Flag City site would not avoid the significant unavoidable project impacts resulting from the conversion of prime farmland. The potential for conflicts between the development at the Flag City site and surrounding agricultural uses is similar to those associated with proposed project site, as discussed under 'Land Use' above, and would not be significant in either case. Therefore, the alternative site would not result in substantially lower potential impacts related to agricultural conflicts than would result at the proposed project site.

Geology and Soils: The Flag City site would be subject to very similar seismic hazards and soil conditions as the proposed project site. Given that the potential impacts would be mitigated to less-than-significant levels at either location, there would be no significant difference in geologic impacts between the two sites.

Hydrology and Water Quality: The project would produce the same volumes of stormwater runoff at the Flag City site as it would at the proposed project site. At both locations the project runoff would be stored in a stormwater basin and then conveyed to the delta via canal. Neither the proposed project site nor the Flag City site would be subject to major flooding during a 100-year event, although both sites would be subject to shallow flooding of less than one foot depth. The potentially damaging effects of localized shallow flooding would be avoided at both sites by padding up finished floors above flood elevations. Similarly, the potential for erosion and siltation, as well as urban nonpoint source pollution, would be mitigated at both the Flag City and the proposed project sites per City or County requirements. Since the drainage, flooding, and water quality impacts would be similarly mitigated at either alternative site, there would be no significant difference in hydrologic impact between the two sites.

Biological Resources: The Flag City site is largely covered with vineyards which provide some degree of habitat value for common species adapted to monocultural environments. As with the proposed project site, there are no wetlands, riparian habitats, or significant trees at the Flag City site. Similarly, both the Flag City site and the proposed project site would result in reduction of foraging habitat for protected species such as Swainson's hawk. These potential impacts would be mitigated at either alternative site through payment of mitigation fees required under the County multi-species habitat conservation plan. In summary, the impacts to biological resources would be similar for development of the project at either the Flag City site or the proposed project site.

Cultural Resources: Although there are no known cultural resources present on either the Flag City site or the proposed project site, any impacts to previously undiscovered buried resources encountered during site development would be fully mitigated through standard contingent mitigations at either site. Thus, development of the project at either the Flag City site or the proposed project site would result in less-than-significant impacts to cultural resources.

Aesthetics: The Flag City site has aesthetic value due to its open space character and particularly because of the amenity created by the vineyards covering most of the site. Development of this site would alter its character as agricultural open space to an urbanized appearance. However, the existing visual quality of the Flag City site is substantially diminished due to its close proximity to the adjacent highway commercial uses. As such, development of the Flag City site would not result in a significant visual impact. Although the County of San Joaquin would not likely require the high quality of site planning and design that the City of Lodi is requiring at the proposed project site, the difference in design quality that would likely occur at

the two sites would not constitute a substantial difference in overall visual impact. Thus development of the shopping center project at the Flag City site would not result in a substantially greater visual impact than development of the proposed project site.

Traffic and Circulation: Since the Flag City site would be developed with the same shopping center as proposed for the project site, the volume of traffic generated would be the same for both sites. Primary project access to the Flag City site would be provided by Highway 12 and Thornton Road. Under current conditions, Highway 12 transitions from a four lane to a two lane highway along the site's southern frontage, and the segment of Thornton Road along the west site frontage is a two-lane rural roadway providing local service primarily to the Flying J truck stop. The volumes of traffic generated by the project could not be accommodated by these existing roadway configurations. Although this impact would be mitigable at the Flag City site through major roadway widenings and provision of protected turn pockets at the project entrance driveways, the magnitude of the improvements required would be substantially greater than required for the proposed project site. Although the traffic impacts resulting from development of the proposed project at the Flag City site would be greater than those associated with the project site, given the relatively small capacities of the existing roadways, these impacts could be reduced to less-than-significant levels as they would be for the proposed project site.

Noise: The existing noise environment at the Flag City site is quite similar to that of the proposed project site in that it is dominated by traffic noise from Highway 12. In both cases, the additional noise from project traffic is unlikely to be noticeable above existing noise levels. In terms of operational noise, the Flag City site has no adjacent or nearby sensitive receptors that would be subject to noise from parking activity, truck circulation and loading, mechanical equipment, or parking lot cleaning. Although existing and future residential uses adjacent to the proposed project site would be subject to some operational noise, the impact would be reduced to less-than-significant levels through feasible mitigations. In summary, the level of noise impacts associated with development of the project at the Flag City site would generally be lower than those associated with the proposed project site, although the noise impacts would be less than significant at either location.

Air Quality: The development of the project at the Flag City site would result in the same air emissions as at the proposed project site. The levels of ozone precursors and particulate matter would exceed air quality standards, which would represent a significant unavoidable impact. Thus the regional air quality impact would be significant and unavoidable for both the Flag City site and the proposed project site. Construction dust and exhaust emissions would be reduced to less-than-significant levels at either site through standard dust suppression measures. Thus there would be no substantial difference in air quality impacts between the Flag City site and the proposed project site.

Hazardous Materials: There are no known sources of hazardous materials at the Flag City site, although there is a potential for residual contamination from previous use of currently banned pesticides that may have been used in the vineyard operation. Any such contaminant sources would be investigated and remediated prior to site development in accordance with state and local regulations. At the proposed project site, there are no existing contaminant sources, so development of this site would pose no health or safety hazard. However, the development of the project at either site would involve the use and storage of hazardous automotive products at Wal-Mart's auto service shop, although any potential hazards would be mitigated through compliance with applicable federal, state, and local regulations. Thus there would be no substantial difference in hazardous materials impacts between the Flag City site and the proposed project site, with any impacts reduced to less-than-significant levels at either site.

Utilities and Service Systems: The development of the shopping center at the Flag City site would result in the same demands for water supply and wastewater collection and treatment as it would at the proposed project site. It is assumed that these services could be provided by the County Service Area (CSA) 31 which currently serves the existing highway commercial development in Flag City, although a capacity upgrade could be required at the wastewater treatment facility in order to serve the project. The required water and sewer lines would be extended to the site from existing lines in the area. At the proposed project site, water and sewer service is available from existing mains in the immediate vicinity, with available capacity to serve the project demands. Therefore, with the possible exception of upgrades to the wastewater treatment facility which might be needed for the Flag City site, the services and utilities impacts associated with the Flag City site and the proposed project site would be similar.

Public Services: The development of the project at the Flag City site would result in the same demand for fire, police, and solid waste collection service as the proposed project site. Given the location of a fire station of the Delta Fire Protection District on the south side of Highway 12 in Flag City, response times for structure fires and medical emergencies at the Flag City site would likely be shorter than response times from the Lodi Fire Department to the proposed project site, although response time goals would be met in both instances. However, response times by the County Sheriff's Department to calls from the Flag City site would generally be longer than response times from the City Police Department to calls from the proposed project site. The project would not result in the need for new or altered facilities in either case, and therefore potentially significant impacts to public services would not be associated with either site. Regarding solid waste collection, this service would be provided by Central Valley Waste Services at both sites, and the company indicated it would not have difficulty serving either site with existing staff, equipment, and facilities. The project's impact on the North County Landfill site would be the same for both sites and would not be significant.

In summary, the impacts associated with development of the Flag City site would be somewhat greater than for the proposed project site. Although the impacts for many categories would be similar for both project locations, development of the Flag City site would result in negative effects in terms of land use policy, and the resulting potential for growth inducement, which would not occur with the proposed project site. Traffic impacts would be greater for the Flag City site, as would impacts to utilities and public services, although these impacts would be less than significant or could be fully mitigable. More importantly, the alternative project site would result in the same significant and unavoidable impacts to agricultural resources and air quality as are associated with the proposed project. Therefore, the alternative site would not lessen or avoid the significant and unavoidable impacts of the project.

The alternative project site may meet some the applicant's objectives for the project, such as minimum parcel size for economic feasibility and location on a highway in proximity to an existing commercial center. However, due to its location outside the City of Lodi, the alternative site would not meet, and could impede, the City's objectives for the project such as: attaining the City's goal of completing development of the Four Corners area; creation of local jobs, and; increasing the local tax base. In addition, the location of the project at this site would not reverse the current retail sales leakage from Lodi would likely ex acerbate it.

## F. SUMMARY - ENVIRONMENTALLY SUPERIOR ALTERNATIVE

Of the three project alternatives considered above, only the No Project alternative would avoid or substantially lessen the significant impacts of the project. The significant and unavoidable impacts to agricultural resources and air quality associated with the proposed project would both be avoided by the No Project alternative. Since all other project impacts are either less than significant or can be reduced to less-than-significant levels through the implementation of feasible mitigation measures, the No Project alternative would not offer substantial reductions in impact levels under the other impact categories. Therefore, the No Project alternative would represent the environmentally superior alternative to the proposed project. The No Project alternative was not selected because it would not meet the applicant's objective of developing the site for shopping center uses; nor would it meet the City's goals of enhancing its revenue base, creating jobs, and reversing retail sales leakage.

The CEQA Guidelines, at Section 15126.6(e)(2), require that if the environmentally superior alternative is the No Project alternative, the EIR shall also identify an environmentally superior alternative from among the other alternatives. The Reduced Project Size alternative was found to result in the same significant and unavoidable impacts to agricultural resources and air quality as the proposed project. However, it would result in slightly lower levels of impact in several impact categories, although these impacts would all be reduced to less-than-significant levels in conjunction with the proposed project. Therefore, the Reduced Project Size alternative represents the environmentally superior alternative. The Reduced Project Size alternative was not selected by the applicant because it would not fulfill the project objective of a 30-acre minimum project size needed for project feasibility. It also would be substantially less effective than the proposed project in fulfilling the City's objective of enhancing its fiscal resources through sales tax and property tax revenues, or in meeting the objectives of creating new jobs and reversing retail sales leakage.

In conclusion, there are no feasible alternatives to the project which would avoid or reduce the significant impacts associated with the proposed project to less-than-significant levels.

## V. SIGNIFICANT UNAVOIDABLE IMPACTS

Section 15126(b) of the CEQA Guidelines requires that EIRs identify "significant effects which cannot be avoided if the proposal is implemented." This includes any significant impacts which can be mitigated but not reduced to less-than-significant levels.

As discussed throughout Chapter II of this EIR, most of the potential impacts associated with the proposed project can be avoided or reduced to less-than-significant levels through mitigation measures to be implemented in conjunction with the project. However, there remain several significant impacts which cannot be feasibly mitigated to less-than-significant levels. These significant and unavoidable impacts of the projects are listed below.

- Significant impacts to agricultural resources;
- Significant impacts to regional air quality;
- Significant cumulative impacts to agricultural resources; and
- Significant cumulative impacts to regional air quality.

As discussed in Chapter *IV. Alternatives to the Proposed Project*, there are no feasible alternatives to the project which would avoid or reduce these impacts to less-than-significant levels.

# VI. GROWTH-INDUCING EFFECTS OF THE PROPOSED PROJECT

Section 15126.2(d) of the CEQA Guidelines stipulates that the growth-inducing impact of a project be addressed as follows: "[d]iscuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly in the surrounding environment. Included in this are projects which would remove obstacles to population growth (a major expansion of a waste water treatment plant might, for example, allow for more construction in service areas). Increases in the population may tax existing community service facilities, requiring the construction of new facilities that could cause significant environmental effects." The potential for the project to induce additional growth is discussed below.

**Precedent for Further Expansion of the Urban Area**

The approval of the proposed project would not represent a new commitment of rural lands for urban development. This site was essentially committed to urban uses through the designation of the site for retail commercial uses in the City of Lodi General Plan. In fact, the City of Lodi is recognized for its compact growth pattern and clearly defined urban boundaries, its emphasis on infill development, and its deliberate and considered approach to urban expansion to accommodate housing and other long-term development needs. The City has strong policies supporting the protection of agricultural lands outside its established urban growth boundary and has planned for a greenbelt/buffer at the growth boundary to protect the long-term viability of nearby agricultural operations outside the City's planning area. The proposed project conforms to all land use goals and policies established by the City of Lodi for this site, and would not require a General Plan amendment or other major policy change which could weaken the City's strong policy commitment to orderly urban development within its planning area. Therefore, the approval of the project would not establish a policy precedent for ad hoc urban expansion which was not planned through a comprehensive planning process.

**Growth Induced by Increased Infrastructure Capacities**

The infrastructure required for development of the project either already exists in the capacities required (e.g., sanitary sewer, domestic water), or has been planned and designed with only enough capacity to serve the project and other approved or planned development (e.g., roadway widenings of West Kettleman Lane and Lower Sacramento Road, and construction of Westgate Drive). Although the sanitary sewer to be installed in Westgate Drive to serve the project will need to be extended south for 800 feet to join the existing 48-inch trunk line which carries flows to the City's wastewater treatment facility, the diameter of the line will only be sufficient to carry flows from the project and other approved developments. As the intervening lands are planned for residential development, in accordance with the City General Plan, this connecting sanitary line will be replaced with a larger diameter main to serve the adjacent development. Therefore, the project would not induce additional growth through increased infrastructure capacities.

**Removal of Obstacles to Growth**

The approval of the project would have no effect as far as facilitating premature development of adjacent lands. The only lands upon which development could be facilitated by the project are those adjacent to the west and south, which could benefit from roadway and utility improvements installed for the project. However, these lands are all designated for residential development under the City's General Plan, and their development would represent the completion of planned residential development on the west side of the

City. These lands could be developed under the General Plan with or without the project. Although the completion of a segment of Westgate Drive in conjunction with the proposed project would remove the necessity of building this roadway for access to the lands immediately to the west, there would be nothing preventing the installation of this roadway in conjunction with the development of this adjacent area if the project were not approved. Moreover, any development proposals on those adjacent lands would be subject to the City's Growth Management Plan for Residential Development under which all residential developments proposed City-wide are required to compete for a limited allocation of residential building permits each year. Therefore, development of the project would do nothing to remove obstacles to the development of the adjacent lands or to hasten their development.

**Stimulus for Economic Growth**

The proposed retail shopping center would stimulate economic growth through direct employment, as well as indirect growth through demand for goods and services. This could contribute to incremental secondary effects such as increased hiring by suppliers. The retail establishments would also generate significant sales tax revenue for the City, enabling expenditures on capital improvement projects that would also stimulate secondary economic activity. During the construction phase, temporary jobs would be created and others supported in the purchase of materials.

**Population and Housing Growth**

To the extent that new employees of the shopping center would not already live within easy commuting range of the project, they could be induced to move into the area, thus creating a slight increase in housing demand locally. However, this minor increase in potential housing demand would not be significant, and could be readily absorbed by the local housing inventory.

In summary, the proposed Lodi Shopping Center would have a less-than-significant growth-inducing effect by way of producing a minor economic stimulus locally. This would occur through direct employment at the center, and through secondary demand for employees at local suppliers and service providers. The project could also result in a slight increase in local housing demand.

The project would not result in significant growth inducement by way of setting a precedent for further urban expansion, by creating excess infrastructure capacities, or by removing obstacles to further growth.

## VII. SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES

The development of the project site would result in irreversible environmental changes. The conversion of the agricultural use of the site to urban uses would represent an essentially permanent change since it unlikely the site would ever be returned to agriculture. Other irreversible changes resulting from the project would include the consumption of non-renewable building materials and energy resources during the construction phase, and the ongoing consumption of energy for lighting, air conditioning, space and water heating, and for travel to and from the site during the life of the project.

Beneficial changes resulting from the project include the expanded choice and supply of retail goods and services, fiscal benefits from increased property and sales tax revenues, benefits to the local economy from business purchases of local goods, and the creation of employment opportunities.

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Van Buren, James, Senior Planner, San Joaquin County Community Development Department, May 28, 2004.

Weid, Christine M., Municipal Market Coordinator, Central Valley Waste Services, May 28, 2004.

# IX. EIR AUTHOR AND CONSULTANTS

## Author

City of Lodi Community Development Department

Konradt Bartlam, Community Development Director
Wally Sandelin, City Engineer
Sharon Welch, Senior Civil Engineer
Paula Fernandez, Senior Traffic Engineer

## Consultants

Pacific Municipal Consultants (PMC)
Rancho Cordova, California

Tad Stearn, Principal-in-Charge
Bert Verrips, Project Manager/Environmental Analyst
Barbara Kinison-Brown, Graphics

Applied Development Economics (ADE)
Socioeconomic Analysis
Berkeley, California

Basin Research Associates
Cultural Resources
San Leandro, California

Donald Ballanti
Air Quality
El Cerrito, California

Fehr & Peers Associates
Transportation Engineers
Roseville, California

Illingworth & Rodkin
Acoustical Consultants
Petaluma, California

Live Oak Associates
Biological Consultants
San Jose, California

Phillippi Engineering
Civil Engineering
Fairfield, California

Twining Laboratories
Geology/Environmental Site Assessment
Fresno, California

# APPENDIX A

## Notice of Preparation (NOP) and Responses

# CITY OF LODI

CITY HALL, 221 WEST PINE STREET
P.O. BOX 3006
LODI, CALIFORNIA 95241-1910
Community Development
(209) 333-6714
FAX (209) 333-6842





# NOTICE OF PREPARATION



San Joaquin County Recorder
6 S. El Dorado St, 2nd Floor
Stockton, CA 95202

From: City of Lodi
221 W. Pine Street
Lodi, CA 95240

SUBJECT: Notice of Preparation of A Draft Environmental Impact Report

The City of Lodi will be the Lead Agency and will prepare an environmental impact report for the project identified below. We need to know the views of your agency as to the scope and content of the environmental information which is germane to your agency's statutory responsibilities in connection with the proposed project. Your agency will need to use the EIR prepared by our agency when considering your permit or other approval for the project.

The project description, location, and the potential environmental effects are contained inn the attached materials. A copy of the Initial Study is not attached.

Due to the time limits mandated by State law, your response must be sent at the earliest possible date but not later than 30 days after receipt of this notice.

Please send your response to J.D. Hightower, City Planner at the address shown above. We will need the name for a contact person in your agency.

Project Title: Kettleman Lane/Lower Sacramento Road Commercial Center

Project Applicant, if any: Browman Development Company, Inc.
100 Swan Way, Suite 206
Oakland, CA 94621-1459

Date: April 14, 2003

J.D. Hightower
City Planner
(209) 333-6711

Gray Davis
Governor

STATE OF CALIFORNIA
Governor's Office of Planning and Research
State Clearinghouse

Tal Finney
Interim Director

**Notice of Preparation**



April 16, 2003

To: Reviewing Agencies

Re: Kettleman Lane/Lower Sacramento Road Commercial Center
SCH# 2003042113

Attached for your review and comment is the Notice of Preparation (NOP) for the Kettleman Lane/Lower Sacramento Road Commercial Center draft Environmental Impact Report (EIR).

Responsible agencies must transmit their comments on the scope and content of the NOP, focusing on specific information related to their own statutory responsibility, within 30 days of receipt of the NOP from the Lead Agency. This is a courtesy notice provided by the State Clearinghouse with a reminder for you to comment in a timely manner. We encourage other agencies to also respond to this notice and express their concerns early in the environmental review process.

Please direct your comments to:

**J.D. Hightower**
**City of Lodi**
**P.O. Box 3006**
**221 West Pine Street**
**Lodi, CA 95241-1910**

with a copy to the State Clearinghouse in the Office of Planning and Research. Please refer to the SCH number noted above in all correspondence concerning this project.

If you have any questions about the environmental document review process, please call the State Clearinghouse at (916) 445-0613.

Sincerely,

Philip Crimmins
Project Analyst, State Clearinghouse

Attachments
cc: Lead Agency

# Document Details Report
## State Clearinghouse Data Ba

**SCH#** 2003042113
**Project Title** Kettleman Lane/Lower Sacramento Road Commercial Center
**Lead Agency** Lodi, City of

---

**Type** **NOP** Notice of Preparation

**Description** The proposed project involves the development of approximately 46 acres located at Kettleman Lane (SR 12) and Lower Sacramento Road in west Lodi. Of the total site acreage, approximately 35 acres will be devoted to retail shopping center, 6 acres will be occupied by a stormwater detention basin in the southwest corner of the site, and the remaining 5 acres will be dedicated for public street right-of-way. Since the project is consistent with the current General Plan and zoning designations for the site, the discretionary City actions requested for the project consist of conditional use permit and tentative map approval.

---

## Lead Agency Contact

**Name** J.D. Hightower
**Agency** City of Lodi
**Phone** 209-333-6714 **Fax**
**email**
**Address** P.O. Box 3006
221 West Pine Street
**City** Lodi **State** CA **Zip** 95241-1910

---

## Project Location

**County** San Joaquin
**City** Lodi
**Region**
**Cross Streets** Kettleman Land (SR 12), Lower Sacramento Road
**Parcel No.**
**Township** **Range** **Section** **Base**

---

## Proximity to:

**Highways** SR 12
**Airports**
**Railways**
**Waterways**
**Schools**
**Land Use**

---

**Project Issues** Aesthetic/Visual; Agricultural Land; Air Quality; Biological Resources; Geologic/Seismic; Toxic/Hazardous; Water Quality; Landuse; Noise; Public Services; Traffic/Circulation

---

**Reviewing Agencies** Resources Agency; Department of Conservation; Department of Parks and Recreation; Department of Water Resources; Department of Food and Agriculture; Department of Fish and Game, Region 2; Native American Heritage Commission; State Lands Commission; Caltrans, District 10; California Highway Patrol; Regional Water Quality Control Bd., Region 5 (Sacramento)

---

**Date Received** 04/16/2003 **Start of Review** 04/16/2003 **End of Review** 05/15/2003

# NOP Distribution List

County: San Joaquin SCH# 2003042113

## Resources Agency

- [■] **Resources Agency**
  Nadell Gayou
- [ ] **Dept. of Boating & Waterways**
  Suzi Betzler
- [ ] **California Coastal Commission**
  Elizabeth A. Fuchs
- [■] **Dept. of Conservation**
  Roseanne Taylor
- [ ] **Dept. of Forestry & Fire Protection**
  Allen Robertson
- [ ] **...rice of Historic Preservation**
  Hans Kreutzberg
- [■] **Dept of Parks & Recreation**
  B. Noah Tilghman
  Environmental Stewardship Section
- [ ] **Reclamation Board**
  Lori Buford
- [ ] **S.F. Bay Conservation & Dev't. Comm.**
  Steve McAdam
- [■] **Dept. of Water Resources**
  Resources Agency
  Nadell Gayou

## He... & Welfare

- [ ] **Health & Welfare**
  Wayne Hubbard
  Dept. of Health/Drinking Water

## Food & Agriculture

- [■] **Food & Agriculture**
  Steve Shaffer
  Dept. of Food and Agriculture

## Fish and Game

- [ ] **Dept. of Fish & Game**
  Scott Flint
  Environmental Services Division
- [ ] **Dept. of Fish & Game 1**
  Donald Koch
  Region 1
- [■] **Dept. of Fish & Game 2**
  Banky Curtis
  Region 2
- [ ] **Dept. of Fish & Game 3**
  Robert Floerke
  Region 3
- [ ] **Dept. of Fish & Game 4**
  William Laudermilk
  Region 4
- [ ] **Dept. of Fish & Game 5**
  Dori Chadwick
  Region 5, Habitat Conservation Program
- [ ] **Dept. of Fish & Game 6**
  Gabrina Gatchel
  Region 6, Habitat Conservation Program
- [ ] **Dept. of Fish & Game 6 I/M**
  Tammy Allen
  Region 6, Inyo/Mono, Habitat Conservation Program
- [ ] **Dept. of Fish & Game M**
  Tom Napoli
  Marine Region

## Independent Commissions

- [ ] **California Energy Commission**
  Environmental Office
- [■] **Native American Heritage Comm.**
  Debbie Treadway
- [ ] **Public Utilities Commission**
  Ken Lewis
- [■] **State Lands Commission**
  Jean Sarino
- [ ] **Governor's Office of Planning & Research**
  State Clearinghouse Planner
- [ ] **Colorado River Board**
  Gerald R. Zimmerman
- [ ] **Tahoe Regional Planning Agency (TRPA)**
  Lyn Barnett
- [ ] **Office of Emergency Services**
  John Rowden, Manager
- [ ] **Delta Protection Commission**
  Debby Eddy
- [ ] **Santa Monica Mountains Conservancy**
  Paul Edelman

## Dept. of Transportation

- [ ] **Dept. of Transportation 1**
  Mike Eagan
  District 1
- [ ] **Dept. of Transportation 2**
  Don Anderson
  District 2
- [ ] **Dept. of Transportation 3**
  Jeff Pulverman
  District 3
- [ ] **Dept. of Transportation 4**
  Tim Sable
  District 4
- [ ] **Dept. of Transportation 5**
  David Murray
  District 5
- [ ] **Dept. of Transportation 6**
  Marc Birnbaum
  District 6
- [ ] **Dept. of Transportation 7**
  Stephen J. Buswell
  District 7
- [ ] **Dept. of Transportation 8**
  Linda Grimes,
  District 8
- [ ] **Dept. of Transportation 9**
  Gayle Rosander
  District 9
- [■] **Dept. of Transportation 10**
  Tom Dumas
  District 10
- [ ] **Dept. of Transportation 11**
  Bill Figge
  District 11
- [ ] **Dept. of Transportation 12**
  Bob Joseph
  District 12

## Business, Trans & Housing

- [ ] **Housing & Community Development**
  Cathy Creswell
  Housing Policy Division
- [ ] **Caltrans - Division of Aeronautics**
  Sandy Hesnard
- [■] **California Highway Patrol**
  Lt. Julie Page
  Office of Special Projects
- [ ] **Dept. of Transportation**
  Ron Helgeson
  Caltrans - Planning
- [ ] **Dept. of General Services**
  Robert Sleppy
  Environmental Services Section

**Air Resources Board**

- [ ] Airport Projects
  Jim Lerner
- [ ] Transportation Projects
  Kurt Karperos
- [ ] Industrial Projects
  Mike Tollstrup

- [ ] **California Integrated Waste Management Board**
  Sue O'Leary
- [ ] **State Water Resources Control Board**
  Jim Hockenberry
  Division of Financial Assistance
- [ ] **State Water Resources Control Board**
  Student Intern, 401 Water Quality Certification Unit
  Division of Water Quality
- [ ] **State Water Resouces Control Board**
  Mike Falkenstein
  Division of Water Rights
- [ ] **Dept. of Toxic Substances Control**
  CEQA Tracking Center

## Regional Water Quality Control Board (RWQCB)

- [ ] **RWQCB 1**
  Cathleen Hudson
  North Coast Region (1)
- [ ] **RWQCB 2**
  Environmental Document Coordinator
  San Francisco Bay Region (2)
- [ ] **RWQCB 3**
  Central Coast Region (3)
- [ ] **RWQCB 4**
  Jonathan Bishop
  Los Angeles Region (4)
- [■] **RWQCB 5S**
  Central Valley Region (5)
  - [ ] **RWQCB 5F**
    Central Valley Region (5)
    Fresno Branch Office
  - [ ] **RWQCB 5R**
    Central Valley Region (5)
    Redding Branch Office
- [ ] **RWQCB 6**
  Lahontan Region (6)
  - [ ] **RWQCB 6V**
    Lahontan Region (6)
    Victorville Branch Office
- [ ] **RWQCB 7**
  Colorado River Basin Region (7)
- [ ] **RWQCB 8**
  Santa Ana Region (8)
- [ ] **RWQCB 9**
  San Diego Region (9)

# CITY OF LODI

CITY HALL, 221 WEST PINE STREET
P.O. BOX 3006
LODI, CALIFORNIA 95241-1910
Community Development
(209) 333-6714
FAX (209) 333-6842



# NOTICE OF PREPARATION

Office of Planning and Research
1400 Tenth Street, Room 121
Sacramento, CA 95814

From: City of Lodi
221 W. Pine Street
Lodi, CA 95240

SUBJECT: Notice of Preparation of A Draft Environmental Impact Report

The City of Lodi will be the Lead Agency and will prepare an environmental impact report for the project identified below. We need to know the views of your agency as to the scope and content of the environmental information which is germane to your agency's statutory responsibilities in connection with the proposed project. Your agency will need to use the EIR prepared by our agency when considering your permit or other approval for the project.

The project description, location, and the potential environmental effects are contained in the attached materials. A copy of the Initial Study is not attached.

Due to the time limits mandated by State law, your response must be sent at the earliest possible date but not later than 30 days after receipt of this notice.

Please send your response to J.D. Hightower, City Planner at the address shown above. We will need the name for a contact person in your agency.

Project Title: Kettleman Lane/Lower Sacramento Road Commercial Center

Project Applicant, if any: Browman Development Company, Inc.
100 Swan Way, Suite 206
Oakland, CA 94621-1459

Date: April 14, 2003

J.D. Hightower
City Planner
(209) 333-6711

| Company | Dept. | Address2 | City | State | PostalCode |
|---|---|---|---|---|---|
| Caltrans, District 10 | Transportation Planning | P.O. Box 2048 | Stockton | CA | 95201 |
| San Joaquin Air Pollution Control District | Attn: John Cadrette | 4230 Kiernan Avenue, Suite #130 | Modesto | CA | 95356 |
| San Joaquin Council of Governments | | 6 S. El Dorado Street | Stockton | CA | 95202 |
| San Joaquin County Recorder | | 6 S. El Dorado St, 2nd Floor | Stockton | CA | 95202 |
| Office of Planning and Research | | 1400 Tenth Street, Room 121 | Sacramento | CA | 95814 |

## PROJECT DESCRIPTION

The proposed project involves the development of approximately 46 acres located at the southwest corner of Kettleman Lane (SR 12) and Lower Sacramento Road in west Lodi. The project will consist of an approximately 350,000 square-foot center, with one or more major discount retailers comprising approximately 220,000 square feet, and one to three additional major retailers occupying spaces varying from 20,000 to 60,000 square feet, with the remainder consisting of small retail shops and restaurants (sit-down and fast-food). Of the total site acreage, approximately 35 acres will be devoted to retail shopping center, 6 acres will be occupied by a stormwater detention basin in the southwest corner of the site, and the remaining 5 acres will be dedicated for public street right-of-way. Since the project is consistent with the current General Plan and zoning designations for the site, the discretionary City actions requested for the project consist of conditional use permit and tentative map approval.

## ENVIRONMENTAL TOPICS TO BE ADDRESSED IN EIR

Based on the City's preliminary review, the following topics are expected to be evaluated in the EIR.

### Aesthetics

The potential visual impacts resulting from the project will be analyzed, with emphasis on changes in views from adjacent lands and surrounding areas. This section will also address the potential for increased light and glare to result from the project.

### Agricultural Resources

Potential impacts include the conversion of farmland to urban uses as well as potential conflicts between the project and adjacent agricultural lands that will remain to the south and west (at least in the near-term). The EIR will include a discussion of mitigations for conversion of agricultural land, including any applicable General Plan policies and programs, such as the City's Right to Farm Ordinance.

### Air Quality

Based on an air quality impact assessment prepared by a qualified expert, this analysis will address the project's effects upon local and regional air quality, in particular upon localized carbon monoxide concentrations. The potential for project emissions to exceed the thresholds of the Air District for regional significance will also be evaluated through computer modeling. Mitigation measures for air quality impacts will be identified as appropriate.

### Biological Resources

Based on the findings of a survey report and impact assessment prepared by a qualified biologist, this section will describe existing biological resources of the site, assess the project's potential impacts to those resources, and identify mitigation measures as appropriate. The project site is covered by the San Joaquin County Multi-Species Habitat Conservation Plan (HCP) which provides for the protection of Swainson's Hawk and other special-status species. Any HCP requirements with respect to pre-construction surveys and the payment of a mitigation fees will be noted.

### Cultural Resources

A qualified cultural resources consulting firm will conduct a literature and clearinghouse search for recorded cultural resource sites in the vicinity, and undertake an archaeological field survey. The cultural resources report will serve as the basis for the EIR discussion of potential impacts and mitigations. Given the unlikelihood of finding archaeological materials at the site, it is not expected that further subsurface investigations or mitigation work will be required. However, in the event that subsurface investigation are required based on the findings of the reconnaissance study, any such investigations will be outside of this scope of work and subject to a contract amendment..

Geology and Soils

Based on a report prepared by a qualified geotechnical engineer, the EIR will evaluate potential impacts and hazards to the project due to on-site geologic and soils conditions. This discussion will focus on the potential for liquefaction, response to ground shaking, erosion potential, and the presence of expansive soils, with mitigation measures identified as appropriate.

Hazards and Hazardous Materials

Based on a Phase I Environmental Site Assessment prepared by a qualified expert, this section will discuss the potential for soil or groundwater contamination or other sources of hazardous materials to be present on the project site. Any recommendations for site remediation contained in the Phase I report will be included in the EIR as project mitigation measures.

Hydrology and Water Quality

Based on report prepared by a qualified hydrologist, the potential hydrology and drainage impacts associated with the project will be addressed. The EIR will describe the storm drainage system planned to address increased runoff generated by the project the project, including the planned detention basin.

The discussion of water quality will address potential impacts resulting from the project both during construction and during project operation. Specific mitigation measures to control erosion during construction will be discussed, as will the State requirement to prepare and implement a Storm Water Pollution Prevention Plan (SWPPP).

Land Use and Planning

This section will evaluate the compatibility of the project with the existing and planned uses in the vicinity. Also included will be an evaluation of the consistency of the project with the City of Lodi General Plan and zoning ordinance, as well as any other applicable City plans, policies and regulations.

In connection with the evaluation of land use impacts, the EIR will also consider the potential economic effects of the project, and whether the project could potentially result in impacts to other commercial retail areas of the city. This evaluation will be based on an economic impact study to be prepared by qualified economist.

Noise

Based on a study report prepared by a qualified acoustical engineer, the EIR will evaluate the potential impacts of the various on-site noise sources at the shopping center including: truck loading, trash dumping and pick-up, parking lot cleaning, vehicle circulation, engines starting, doors closing, and

mechanical equipment noise. The added noise from project traffic on surrounding roadways will also be evaluated, as will the temporary noise generated during project construction. Based on the recommendations of the noise report, the EIR will identify noise mitigation measures, as appropriate.

Public Services

The EIR discussion on public services will cover the issues of fire and police protection, and solid waste. The fire and police departments will be contacted regarding the project's potential effects on service levels, and and whether additional personnel and equipment may be required to serve the project. The solid waste generated by the project will be estimated, and provisions for solid waste collection and disposal within the project area will be described, and the remaining landfill capacity addressed. Any provisions for recycling and waste reduction will be noted.

Transportation/Traffic

Based on the traffic report to be prepared by a qualified transportation engineer, this section will discuss the potential level of service impacts resulting from traffic generated by the project on the surrounding roadway network. This section will also evaluate operational aspects such as: project access, internal vehicular circulation, parking, truck circulation and loading, transit service, and pedestrian and bicycle access. The level of service mitigations and operational recommendations identified in the traffic report will be listed.

Utilities and Service Systems

The project will require domestic water supply, sanitary sewer service and wastewater treatment, as well as electric power, natural gas, and telephone service. The project demand for these utilities and services will be evaluated relative to existing capacities and availability.

CEQA-Mandated Discussions

In addition to the above environmental topic discussions, the EIR will include the following discussions required by CEQA: cumulative impacts; project alternatives; significant unavoidable impacts; significant irreversible changes; and growth-inducing impacts.

San Joaquin Valley
Air Pollution Control District



J. D. Hightower
City Planner
City of Lodi
P.O. Box 3006
Lodi, CA 94519

May 14, 2003

SUBJECT: NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL IMPACT REPORT FOR KETTLEMAN LANE/LOWER SACRAMENTO ROAD COMMERCIAL CENTER

Dear Mr. Hightower:

The San Joaquin Valley Unified Air Pollution Control District (District) has reviewed the proposed project and offers the following comments:

The San Joaquin Valley's air quality has been designated nonattainment by the EPA and by the Air Resources Board (ARB) for ozone and fine particulate matter (PM-10). The Federal Clean Air Act (CAA) and the California Clean Air Act require areas that are designated nonattainment to reduce emissions until standards are met.

The purpose project is larger than the Small Project Analysis Level (SPAL) as listed in the District's *Guide for Assessing and Mitigating Air Quality Impacts (GAMAQI)* document and therefore requires further analysis. The District has established a significance threshold of 10 tons per year for both oxides of nitrogen (NOx) and reactive organic compounds (ROG or VOC). The District recommends using the URBEMIS 7G program to calculate project area source and mobile source emissions and for identifying mitigation measures to reduce impacts. Based on the information provided in the initial study this project will exceed District thresholds of significance and should perform an Environmental Impact Report (EIR), utilizing the following format to address air quality issues.

The District recommends that the air quality section of the EIR have three main components. **Section one** should provide a description of the regulatory environment and existing air quality conditions impacting the San Joaquin Valley. **Section two** should provide estimates of existing emissions and projected pollutant emissions related to any increases in population, vehicle use, and construction activities along with an analysis of the effects of these increases. **Section three** should identify and discuss all feasible mitigation measures which, after implementation, will reduce the air quality impacts generated by this project.

David L. Crow
Executive Director/Air Pollution Control Officer

Northern Region Office
4230 Kiernan Avenue, Suite 130
Modesto, CA 95356-9322
(209) 557-6400 • FAX (209) 557-6475

Central Region Office
1990 East Gettysburg Avenue
Fresno, CA 93726-0244
(559) 230-6000 • FAX (559) 230-6061

Southern Region Office
2700 M Street, Suite 275
Bakersfield, CA 93301-2373
(661) 326-6900 • FAX (661) 326-6985

www.valleyair.org

**Section 1:** ***description of the regulatory environment and existing air quality conditions of the San Joaquin Valley.***

The District has several sources of information available to assist with the existing air quality and regulatory environment section of the EIR. The District's ***Guide for Assessing and Mitigating Air Quality Impacts*** (GAMAQI) contains discussions regarding the existing air quality conditions and trends of the San Joaquin Valley Air Basin, including those pollutants of particular concern: ozone, PM-10, and carbon monoxide. In addition, it provides an overview of the regulatory environment governing air quality at the federal, state, and regional levels. The GAMAQI provides air monitoring data and other relevant information for PM-10 and other pollutants.

**Section 2:** ***projected pollutant emissions generated during the construction and operational phases of the project.***

The growth-inducing and cumulative impacts analyses should take into consideration the existing and planned development both within the project area and in the surrounding areas. The District recommends the use of the URBEMIS 7G modeling program to calculate the pollutant emissions resulting from motor vehicle trips generated by this development project. Additional guidance is provided in the GAMAQI.

Additionally, the EIR should quantify emissions that are individually small but cumulatively significant sources of pollution. This includes, but is not limited to, emissions from natural gas combustion for space and water heating and emissions from gas-powered lawn and garden maintenance equipment. URBEMIS 7G may also be used to quantify these emissions.

**Section 3:** ***mitigation measures.***

Mitigation measures must be included in the EIR that reduce the emissions of reactive organic gases (ROG), nitrogen oxides, carbon monoxide, and PM-10 to the maximum extent feasible. Site design and building construction measures that would reduce air quality impacts should be included. In addition, measures to reduce vehicle trips, miles traveled, and cold starts should be included in the project.

Thank you for the opportunity to comment. If you have any questions, please feel free to contact me at (209) 557-6400.

Sincerely,

John Cadrett
Air Quality Planner
Northern Region

APCD REF # 20030195

**DEPARTMENT OF TRANSPORTATION**
**P.O. BOX 2048 (1976 E. CHARTER WAY)**
**STOCKTON, CA 95201**
**TTY: California Relay Service (800) 735-2929**
**PHONE (209) 941-1921**
**FAX (209) 948-7194**

*Flex your power!*
*Be energy efficient!*

May 15, 2003

**10-SJ-12PM 15.155**
**SCH # 2003042113**
**NOP/EIR**
**Lodi Shopping Center**

Mr. J.D. Hightower
Director
City of Lodi
Community Development Department
P.O. Box 3006
Lodi, CA 95241-1910

Re: Notice of Preparation (NOP) of an Environmental Impact Report (EIR) for the Lodi Shopping Center Development Project (Project) (April 2003)

Dear Mr. Hightower:

The California Department of Transportation (Department) appreciates the opportunity to review and comment on the Notice of Preparation (NOP) of an Environmental Impact Report (EIR) concerning the proposed Lodi Shopping Center Development Project (Project) for the City of Lodi (City). It is situated at Kettleman Lane/Lower Sacramento Road Commercial Center, a 46 acre site to be developed at the corner of Kettleman Lane (SR 12) and Lower Sacramento Road in west Lodi.

The Department is looking forward to reviewing the draft environmental document for this proposed commercial development Project and currently has the following comments. An Encroachment Permit will be required, as well as a full traffic study, prepared in accordance with Caltrans' *Guide for the Preparation of Traffic Impact Studies* (see Enclosure A).

Our Travel Forecasting Branch concurs with the Scope of Work submitted by Hexagon Transportation Consultants, Inc., for the preparation of the traffic impact analysis. We do, however, take exception to Task 7, Evaluation of Background Conditions. We suggest that a complete, meaningful analysis of project impacts can be significantly underestimated when a project that does not have funding is assumed. Therefore, we would like to see two scenarios analyzed in the Traffic Impact Study: one with, and one without the Kettleman Lane Gap Closure Project.

Any data used from previous studies in the project area, which assumed a Kettleman Lane Gap Closure Project, should be revised to include a scenario without the gap closure.

If Traffic Impact Studies/Models require work to be done on any State Route, an Encroachment Permit may be required. Fair share money for work may include funds for environmental work and/or mitigation.

This Project will increase the ambient air pollution problem existing in San Joaquin County. Therefore, please be aware that any increase of negative air quality may well impact negatively on future transportation projects. There may also be cumulative impacts on the air quality by additional projects located in the Lodi area that should be addressed within this CEQA document.

The use of California State highways for other than normal transportation purposes may require written authorization from the Department in the form of an Encroachment Permit. The application must include the environmental document prepared for the project that addresses our right-of-way. At a minimum, documentation of cultural, biological, and hazardous waste studies within state right-of-way is required.

If right-of-way is being dedicated to the Department, the applicant is required to submit a copy of Attachment A, confirming that the land to be dedicated to the Department is free of hazardous waste. Even if right-of-way is not being dedicated, it is a good practice to conduct a record search to obtain known hazardous waste locations.

The Department encourages contacting the Native American Heritage Commission 915 Capitol Mall, Room 364, Sacramento, California 95814, (916) 653-4082, (916) 657-5390 [FAX] for advice on consulting with Native Americans regarding any cultural concerns within the project area.

The proposed Project may have an adverse effect on the highway drainage system. Therefore, highway drainage will need to fully discussed in the environmental document. Complete on-site drainage and grading plans need to be submitted during the Encroachment Permit process, noting all of the existing highway drainage system in the adjacent state right-of-way. On-site drainage will not be allowed to drain into the state highway drainage system, therefore, on-site drainage will need to be handled on-site.

Please forward all Final Conditions of Approval including any proposed mitigation measures as well as any other documents and reports (i.e. environmental documents, Traffic Impact Study Reports, site and Location Maps, etc) on this proposed Project for our review, comment, and records. If you are aware of any controversy regarding any of our requirements, please contact me as soon as possible so we may work together to resolve them before submittal to your Board.

We look forward in continuing to work with you in a cooperative manner. If you have any questions or would like to discuss these comments in more detail, please contact Ms. Lynn O'Connor at (209) 948-7575 (email: loconnor@dot.ca.gov).

Sincerely,

**Tom Dumas, Chief**
**Office of Intermodal Planning**

Enclosure

c: State Clearinghouse: Phillip Crimmins

ENCLOSURE A


# GUIDE FOR THE PREPARATION

# OF

# TRAFFIC IMPACT STUDIES

**STATE OF CALIFORNIA**
**DEPARTMENT OF TRANSPORTATION**

**June 2001**

## PREFACE

*The California Department of Transportation (Caltrans) has developed this "Guide for the Preparation of Traffic Impact Studies" in response to a survey of cities and counties in California. The purpose of that survey was to improve the Caltrans local development review process (also known as the Intergovernmental Review/California Environmental Quality Act or IGR/CEQA process). The survey indicated that approximately 30 percent of the respondents were not aware of what Caltrans required in a traffic impact study (TIS).*

*In the early 1990s, the Caltrans District 6 office located in Fresno identified a need to provide better quality and consistency in the analysis of traffic impacts generated by local development and land use change proposals that effect State highway facilities. At that time, District 6 brought together both public and private sector expertise to develop a traffic impact study guide. The District 6 guide has proven to be successful at promoting consistency and uniformity in the identification and analysis of traffic impacts generated by local development and land use changes.*

*The guide developed in Fresno was adapted for statewide use by a team of Headquarters and district staff. The guide will provide consistent guidance for Caltrans staff who review local development and land use change proposals as well as inform local agencies of the information needed for Caltrans to analyze the traffic impacts to State highway facilities. The guide will also benefit local agencies and the development community by providing more expeditious review of local development proposals.*

*Even though sound planning and engineering practices were used to adapt the Fresno TIS guide, it is anticipated that changes will occur over time as new technologies and more efficient practices become available. To facilitate these changes, Caltrans encourages all those who use this guide to contact their nearest district office (i.e., IGR/CEQA Coordinator) to coordinate any changes with the development team.*


## *ACKNOWLEDGEMENTS*

*The District 6 traffic impact study guide provided the impetus and a starting point for developing the statewide guide. Special thanks is given to Marc Birnbaum for recognizing the need for a TIS guide and for his valued experience and vast knowledge of land use planning to significantly enhance the effort to adapt the District 6 guide for statewide use. Randy Treece from District 6 provided many hours of coordination, research and development of the original guide and should be commended for his diligent efforts. Sharri Bender Ehlert of District 6 provided much of the technical expertise in the adaptation of the District 6 guide and her efforts are greatly appreciated.*

*A special thanks is also given to all those Cities, Counties, Regional Agencies, Congestion Management Agencies, Consultants, and Caltrans Employees who reviewed the guide and provided input during the development of this Guide for the Preparation of Traffic Impact Studies.*

# TABLE OF CONTENTS

## I. INTRODUCTION

Caltrans desires to provide a safe and efficient State transportation system for the citizens of California pursuant to various Sections of the California Streets and Highway Code. This is done in partnership with local and regional agencies through procedures established by the California Environmental Quality Act (CEQA) and other land use planning processes. The intent of this guide is to provide a starting point and a consistent basis in which Caltrans evaluates traffic impacts to State highway facilities. The applicability of this guide for local streets and roads (non-State highways) is at the discretion of the effected jurisdiction.

Caltrans reviews federal, State, and local agency development projects[1], and land use change proposals for their potential impact to State highway facilities. The primary objectives of this guide is to provide:

- guidance in determining if and when a traffic impact study (TIS) is needed,
- consistency and uniformity in the identification of traffic impacts generated by local land use proposals,
- consistency and equity in the identification of measures to mitigate the traffic impacts generated by land use proposals,
- lead agency[2] officials with the information necessary to make informed decisions regarding the existing and proposed transportation infrastructure (see Appendix A, Minimum Contents of a TIS)
- TIS requirements early in the planning phase of a project (i.e., initial study, notice of preparation, or earlier) to eliminate potential delays later,
- a quality TIS by agreeing to the assumptions, data requirements, study scenarios, and analysis methodologies prior to beginning the TIS, and
- early coordination during the planning phases of a project to reduce the time and cost of preparing a TIS.

## II. WHEN A TRAFFIC IMPACT STUDY IS NEEDED

The level of service[3] (LOS) for operating State highway facilities is based upon measures of effectiveness (MOEs). These MOEs (see Appendix "C-2") describe the measures best suited for analyzing State highway facilities (i.e., freeway segments, signalized intersections, on- or off-ramps, etc.). Caltrans endeavors to maintain a target LOS at the transition between LOS "C" and LOS "D" (see Appendix "C-3") on State highway facilities, however, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS. If an existing State highway facility is operating at less than the appropriate target LOS, the existing MOE should be maintained.

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[1] "Project" refers to activities directly undertaken by government, financed by government, or requiring a permit or other approval from government as defined in Section 21065 of the Public Resources Code and Section 15378 of the California Code of Regulations.

[2] "Lead Agency" refers to the public agency that has the principal responsibility for carrying out or approving a project. Defined in Section 21165 of the Public Resources Code, the "California Environmental Quality Act, and Section 15367 of the California Code of Regulations.

[3] "Level of service" as defined in the latest edition of the Highway Capacity Manual, Transportation Research Board, National Research Council.

### A. Trip Generation Thresholds

The following criterion is a starting point in determining when a TIS is needed. When a project:

1. Generates over 100 peak hour trips assigned to a State highway facility
2. Generates 50 to 100 peak hour trips assigned to a State highway facility – and, affected State highway facilities are experiencing noticeable delay; approaching unstable traffic flow conditions (LOS "C" or "D").
3. Generates 1 to 49 peak hour trips assigned to a State highway facility – the following are examples that may require a full TIS or some lesser analysis[4]:
   a. Affected State highway facilities experiencing significant delay; unstable or forced traffic flow conditions (LOS "E" or "F").
   b. The potential risk for a traffic incident is significantly increased (i.e., congestion related collisions, non-standard sight distance considerations, increase in traffic conflict points, etc.).
   c. Change in local circulation networks that impact a State highway facility (i.e., direct access to State highway facility, a non-standard highway geometric design, etc.).

Note: A traffic study may be as simple as providing a traffic count to as complex as a microscopic simulation. The appropriate level of study is determined by the particulars of a project, the prevailing highway conditions, and the forecasted traffic.

### B. Exceptions

Exceptions require consultation between the lead agency, Caltrans, and those preparing the TIS. When a project's traffic impact to a State highway facility can clearly be anticipated without a study and all the parties involved (lead agency, developer, and the Caltrans district office) are able to negotiate appropriate mitigation, a TIS may not be necessary.

### C. Updating An Existing Traffic Impact Study

A TIS requires updating when the amount or character of traffic is significantly different from an earlier study. Generally a TIS requires updating every two years. A TIS may require updating sooner in rapidly developing areas and not as often in slower developing areas. In these cases, consultation with Caltrans is strongly recommended.

## III. SCOPE OF TRAFFIC IMPACT STUDY

Consultation between the lead agency, Caltrans, and those preparing the TIS is recommended before commencing work on the study to establish the appropriate scope. At a minimum, the TIS should include the following:

### A. Boundaries of the Traffic Impact Study

All State highway facilities impacted in accordance with the criteria in Section II should be studied. Traffic impacts to local streets and roads can impact intersections with State highway facilities. In these cases, the TIS should include an analysis of adjacent local facilities, upstream and downstream, of the intersection (i.e., driveways, intersections, and interchanges) with the State highway.

[4] A "lesser analysis" may include obtaining traffic counts, preparing signal warrants, or a focused TIS, etc.

## B. Traffic Analysis Scenarios

Caltrans is interested in the effects of general plan updates and amendments as well as the effects of specific project entitlements (i.e., site plans, conditional use permits, sub-divisions, rezoning, etc.) that have the potential to impact a State highway facility. The complexity or magnitude of the impacts of a project will normally dictate the scenarios necessary to analyze the project. Consultation between the lead agency, Caltrans, and those preparing the TIS is recommended to determine the appropriate scenarios for the analysis. The following scenarios should be addressed in the TIS when appropriate:

1. When only a general plan amendment or update is being sought, the following scenarios are required:
   a) Existing Conditions - Current year traffic volumes and peak hour LOS analysis of effected State highway facilities.
   b) Proposed Project Only with Select Link[5] Analysis - Trip generation and assignment for build-out of general plan.
   c) General Plan Build-out Only - Trip assignment and peak hour LOS analysis. Include current land uses and other pending general plan amendments.
   d) General Plan Build-out Plus Proposed Project - Trip assignment and peak hour LOS analysis. Include proposed project and other pending general plan amendments.
2. When a general plan amendment is not proposed and a proposed project is seeking specific entitlements (i.e., site plans, conditional use permits, sub-division, rezoning, etc.), the following scenarios must be analyzed in the TIS:
   a) Existing Conditions - Current year traffic volumes and peak hour LOS analysis of effected State highway facilities.
   b) Proposed Project Only - Trip generation, distribution, and assignment in the year the project is anticipated to complete construction.
   c) Cumulative Conditions (Existing Conditions Plus Other Approved and Pending Projects Without Proposed Project) - Trip assignment and peak hour LOS analysis in the year the project is anticipated to complete construction.
   d) Cumulative Conditions Plus Proposed Project (Existing Conditions Plus Other Approved and Pending Projects Plus Proposed Project) - Trip assignment and peak hour LOS analysis in the year the project is anticipated to complete construction.
   e) Cumulative Conditions Plus Proposed Phases (Interim Years) - Trip assignment and peak hour LOS analysis in the years the project phases are anticipated to complete construction.
3. In cases where the circulation element of the general plan is not consistent with the land use element or the general plan is outdated and not representative of current or future forecasted conditions, all scenarios from Sections III. B. 1. and 2. should be utilized with the exception of duplicating of item 2.a.

[5] "Select link" analysis represents a project only traffic model run, where the project's trips are distributed and assigned along a loaded highway network. This procedure isolates the specific impact on the State highway network.

## IV. TRAFFIC DATA

Prior to any fieldwork, consultation between the lead agency, Caltrans, and those preparing the TIS is recommended to reach consensus on the data and assumptions necessary for the study. The following elements are a starting point in that consideration.

### A. Trip Generation

The latest edition of the Institute of Transportation Engineers' (ITE) TRIP GENERATION report should be used for trip generation forecasts. Local trip generation rates are also acceptable if appropriate validation is provided to support them.

1. Trip Generation Rates – When the land use has a limited number of studies to support the trip generation rates or when the Coefficient of Determination ($R^2$) is below 0.75, consultation between the lead agency, Caltrans and those preparing the TIS is recommended.
2. Pass-by Trips[6] – Pass-by trips are only considered for retail oriented development. Reductions greater than 15% requires consultation and acceptance by Caltrans. The justification for exceeding a 15% reduction should be discussed in the TIS.
3. Captured Trips[7] – Captured trip reductions greater than 5% requires consultation and acceptance by Caltrans. The justification for exceeding a 5% reduction should be discussed in the TIS.
4. Transportation Demand Management (TDM) – Consultation between the lead agency and Caltrans is essential before applying trip reduction for TDM strategies.

NOTE: Reasonable reductions to trip generation rates are considered when adjacent State highway volumes are sufficient (at least 5000 ADT) to support reductions for the land use.

### B. Traffic Counts

Prior to field traffic counts, consultation between the lead agency, Caltrans and those preparing the TIS is recommended to determine the level of detail (e.g., location, signal timing, travel speeds, turning movements, etc.) required at each traffic count site. All State highway facilities within the boundaries of the TIS should be considered. Common rules for counting vehicular traffic include but are not limited to:

1. Vehicle counts should be conducted on Tuesdays, Wednesdays, or Thursdays during weeks not containing a holiday and conducted in favorable weather conditions.
2. Vehicle counts should be conducted during the appropriate peak hours (see peak hour discussion below).
3. Seasonal and weekend variations in traffic should also be considered where appropriate (i.e., recreational routes, tourist attractions, harvest season, etc.).

### C. Peak Hours

To eliminate unnecessary analysis, consultation between the lead agency, Caltrans and those preparing the TIS is recommended during the early planning stages of a project. In general, the TIS should include a morning (a.m.) and an evening (p.m.) peak hour analyses. Other peak hours (e.g., 11:30 a.m. to 1:30 p.m., weekend, holidays, etc.) may also be required to determine the significance of the traffic impacts generated by a project.

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[6] "Pass-by" trips are made as intermediate stops between an origin and a primary trip destination (i.e., home to work, home to shopping, etc.).

[7] " Captured Trips" are trips that do not enter or leave the driveways of a project's boundary within a mixed-use development.

### D. Travel Forecasting (Transportation Modeling)

The local or regional traffic model should reflect the most current land use and planned improvements (i.e., where programming or funding is secured). When a general plan build-out model is not available, the closest forecast model year to build-out should be used. If a traffic model is not available, historical growth rates and current trends can be used to project future traffic volumes. The TIS should clearly describe any changes made in the model to accommodate the analysis of a proposed project.

## V. TRAFFIC IMPACT ANALYSIS METHODOLOGIES

Typically, the traffic analysis methodologies for the facility types indicated below are used by Caltrans and will be accepted without prior consultation. When a State highway has saturated flows, the use of a micro-simulation model is encouraged for the analysis. Other analysis methods may be accepted, however, consultation between the lead agency, Caltrans and those preparing the TIS is recommended to agree on the data necessary for the analysis.

A. Freeway Segments – Highway Capacity Manual (HCM)*, operational analysis
B. Weaving Areas – Caltrans Highway Design Manual (HDM)
C. Ramps and Ramp Junctions – HCM*, operational analysis or Caltrans HDM, Caltrans Ramp Metering Guidelines (most recent edition)
D. Multi-Lane Highways – HCM*, operational analysis
E. Two-lane Highways – HCM*, operational analysis
F. Signalized Intersections[8] – HCM*, Highway Capacity Software**, operational analysis, TRAFFIX™**, Synchro**, see footnote 8
G. Unsignalized Intersections – HCM*, operational analysis, Caltrans Traffic Manual for signal warrants if a signal is being considered
H. Transit – HCM*, operational analysis
I. Pedestrians – HCM*
J. Bicycles – HCM*
K. Caltrans Criteria/Warrants – Caltrans Traffic Manual (stop signs, traffic signals, freeway lighting, conventional highway lighting, school crossings)
L. Channelization – Caltrans guidelines for Reconstruction of Intersections, August 1985, Ichiro Fukutome

*The most current edition of the Highway Capacity Manual, Transportation Research Board, National Research Council, should be used.

**NOTE: Caltrans does not officially advocate the use of any special software. However, consistency with the HCM is advocated in most but not all cases. The Caltrans local development review units utilize the software mentioned above. If different software or analytical techniques are used for the TIS then consultation between the lead agency, Caltrans and those preparing the TIS is recommended. Results that are significantly different than those produced with the analytical techniques above should be challenged.

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[8] The procedures in the Highway Capacity Manual "do not explicitly address operations of closely spaced signalized intersections. Under such conditions, several unique characteristics must be considered, including spill-back potential from the downstream intersection to the upstream intersection, effects of downstream queues on upstream saturation flow rate, and unusual platoon dispersion or compression between intersections. An example of such closely spaced operations is signalized ramp terminals at urban interchanges. Queue interactions between closely spaced intersections may seriously distort the procedures in" the HCM.

## VI. MITIGATION MEASURES

The TIS should provide the nexus [Nollan v. California Coastal Commission, 1987, 483 U.S. 825 (108 S.Ct. 314)] between a project and the traffic impacts to State highway facilities. The TIS should also establish the rough proportionality [Dolan v. City of Tigard, 1994, 512 U.S. 374 (114 S. Ct. 2309)] between the mitigation measures and the traffic impacts. One method for establishing the rough proportionality or a project proponent's equitable responsibility for a project's impacts is provided in Appendix "B." Consultation between the lead agency, Caltrans and those preparing the TIS is recommended to reach consensus on the mitigation measures and who will be responsible.

Mitigation measures must be included in the traffic impact analysis. This determines if a project's impacts can be eliminated or reduced to a level of insignificance. Eliminating or reducing impacts to a level of insignificance is the standard pursuant to CEQA and the National Environmental Policy Act (NEPA). The lead agency is responsible for administering the CEQA review process and has the principal authority for approving a local development proposal or land use change. Caltrans, as a responsible agency, is responsible for reviewing the TIS for errors and omissions that pertain to State highway facilities. However, the authority vested in the lead agency under CEQA does not take precedence over other authorities in law.

If the mitigation measures require work in the State highway right-of-way an encroachment permit from Caltrans will be required. This work will also be subject to Caltrans standards and specifications. Consultation between the lead agency, Caltrans and those preparing the TIS early in the planning process is strongly recommended to expedite the review of local development proposals and to reduce conflicts and misunderstandings in both the local agency CEQA review process as well as the Caltrans encroachment permit process.

# APPENDIX "A"

# MINIMUM CONTENTS

# OF A

# TRAFFIC IMPACT STUDY

# MINIMUM CONTENTS OF TRAFFIC IMPACT STUDY REPORT

I. EXECUTIVE SUMMARY

II. TABLE OF CONTENTS

A. List of Figures (Maps)
B. List of Tables

III. INTRODUCTION

A. Description of the proposed project
B. Location of project
C. Site plan including all access to State highways (site plan, map)
D. Circulation network including all access to State highways (vicinity map)
E. Land use and zoning
F. Phasing plan including proposed dates of project (phase) completion
G. Project sponsor and contact person(s)
H. References to other traffic impact studies

IV. TRAFFIC ANALYSIS

A. Clearly stated assumptions
B. Existing and projected traffic volumes (including turning movements), facility geometry (including storage lengths), and traffic controls (including signal phasing and multi-signal progression where appropriate) (figure)
C. Project trip generation including references (table)
D. Project generated trip distribution and assignment (figure)
E. LOS and warrant analyses - existing conditions, cumulative conditions, and full build of general plan conditions with and without project

V. CONCLUSIONS AND RECOMMENDATIONS

A. LOS and appropriate MOE quantities of impacted facilities with and without mitigation measures
B. Mitigation phasing plan including dates of proposed mitigation measures
C. Define responsibilities for implementing mitigation measures
D. Cost estimates for mitigation measures and financing plan

VI. APPENDICES

A. Description of traffic data and how data was collected
B. Description of methodologies and assumptions used in analyses
C. Worksheets used in analyses (i.e., signal warrant, LOS, traffic count information, etc.)

# APPENDIX "B"

# METHODOLOGY FOR

# CALCULATING EQUITABLE

# MITIGATION MEASURES

## METHOD FOR CALCULATING EQUITABLE MITIGATION MEASURES

The methodology below is neither intended as, nor does it establish, a legal standard for determining equitable responsibility and cost of a project's traffic impact, the intent is to provide:

1. A starting point for early discussions to address traffic mitigation equitably.
2. A means for calculating the equitable share for mitigating traffic impacts.
3. A means for establishing rough proportionality [Dolan v. City of Tigard, 1994, 512 U.S. 374 (114 S. Ct. 2309)].

The formulas should be used when:

- A project has impacts that do not immediately warrant mitigation, but their cumulative effects are significant and will require mitigating in the future.
- A project has an immediate impact and the lead agency has assumed responsibility for addressing operational improvements

NOTE: This formula is not intended for circumstances where a project proponent will be receiving a substantial benefit from the identified mitigation measures. In these cases, (e.g., mid-block access and signalization to a shopping center) the project should take full responsibility to toward providing the necessary infrastructure.

**EQUITABLE SHARE RESPONSIBILITY:** **Equation C-1**
**NOTE:** $T_E < T_B$, see explanation for $T_B$ below.

$$P = \frac{T}{T_B - T_E}$$

Where:

P = The equitable share for the proposed project's traffic impact.
T = The vehicle trips generated by the project during the peak hour of adjacent State highway facility in vehicles per hour, vph.
$T_B$ = The forecasted traffic volume on an impacted State highway facility at the time of general plan build-out (e.g., 20 year model or the furthest future model date feasible), vph.
$T_E$ = The traffic volume existing on the impacted State highway facility plus other approved projects that will generate traffic that has yet to be constructed/opened, vph.

**EQUITABLE COST:** **Equation C-2**

$$C = P\ (C_T)$$

Where:

C = The equitable cost of traffic mitigation for the proposed project, ($). (Rounded to nearest one thousand dollars)
P = The equitable share for the project being considered.
$C_T$ = The total cost estimate for improvements necessary to mitigate the forecasted traffic demand on the impacted State highway facility in question at general plan build-out, ($).

### NOTES

1. Once the equitable share responsibility and equitable cost has been established on a per trip basis, these values can be utilized for all projects on that State highway facility until the forecasted general plan build-out model is revised.
2. Truck traffic should be converted to passenger car equivalents before utilizing these equations (see the Highway Capacity Manual for converting to passenger car equivalents).

# APPENDIX "C"

# MEASURES OF EFFECTIVENESS

# BY

# FACILITY TYPE

# MEASURES OF EFFECTIVENESS BY FACILITY TYPE

| TYPE OF FACILITY | MEASURE OF EFFECTIVENESS (MOE) |
|---|---|
| Basic Freeway Segments | Density (pc/mi/ln) |
| Ramps | Density (pc/mi/ln) |
| Ramp Terminals | Delay (sec/veh) |
| Multi-Lane Highways | Density (pc/mi/ln) |
| Two-Lane Highways | Percent-Time-Following<br>Average Travel Speed (mi/hr) |
| Signalized Intersections | Control Delay per Vehicle (sec/veh) |
| Unsignalized Intersections | Average Control Delay per Vehicle (sec/veh) |
| Urban Streets | Average Travel Speed (mi/hr) |

Measures of effectiveness for level of service definitions located in the most recent version of the Highway Capacity Manual, Transportation Research Board, National Research Council.

# Transition between LOS "C" and LOS "D" Criteria

(Reference Highway Capacity Manual)

## BASIC FREEWAY SEGMENTS @ 65 mi/hr

| LOS | Maximum Density (pc/mi/ln) | Minimum Speed (mph) | Maximum v/c | Maximum Service Flow Rate (pc/hr/ln) |
|---|---|---|---|---|
| A | 11 | 65.0 | 0.30 | 710 |
| B | 18 | 65.0 | 0.50 | 1170 |
| C | 26 | 64.6 | 0.71 | 1680 |
| D | 35 | 59.7 | 0.89 | 2090 |
| E | 45 | 52.2 | 1.00 | 2350 |

## SIGNALIZED INTERSECTIONS and RAMP TERMINALS

| LOS | Control Delay per Vehicle (sec/veh) |
|---|---|
| A | ≤ 10 |
| B | > 10 - 20 |
| C | > 20 - 35 |
| D | > 35 - 55 |
| E | > 55 - 80 |
| F | > 80 |

## MULTI-LANE HIGHWAYS @ 55 mi/hr

| LOS | Maximum Density (pc/mi/ln) | Minimum Speed (mph) | Maximum v/c | Maximum Service Flow Rate (pc/hr/ln) |
|---|---|---|---|---|
| A | 11 | 55.0 | 0.29 | 600 |
| B | 18 | 55.0 | 0.47 | 990 |
| C | 26 | 54.9 | 0.68 | 1430 |
| D | 35 | 52.9 | 0.88 | 1850 |
| E | 41 | 51.2 | 1.00 | 2100 |

▪▪▪▪▪ Dotted line represents the transition between LOS "C" and LOS "D"

## TWO-LANE HIGHWAYS

| LOS | Percent Time-Spent-Following | Average Travel Speed (mi/hr) |
|---|---|---|
| A | ≤ 35 | > 55 |
| B | > 35 - 50 | > 50 - 55 |
| C | > 50 - 65 | > 45 - 50 |
| D | > 65 - 80 | > 40 - 45 |
| E | > 80 | ≤ 40 |

## URBAN STREETS

| Urban Street Class | I | II | III | IV |
|---|---|---|---|---|
| Range of FFS | 55 to 45 mi/hr | 45 to 35 mi/hr | 35 to 30 mi/hr | 35 to 25 mi/hr |
| Typical FFS | 50 mi/hr | 40 mi/hr | 35 mi/hr | 30 mi/hr |
| LOS | Average Travel Speed (mi/hr) | | | |
| A | > 42 | > 35 | > 30 | > 25 |
| B | > 34 - 42 | > 28 - 35 | > 24 - 30 | > 19 - 25 |
| C | > 27 - 34 | > 22 - 28 | > 18 - 24 | > 13 - 19 |
| D | > 21 - 27 | > 17 - 22 | > 14 - 18 | > 9 - 13 |
| E | > 16 - 21 | > 13 - 17 | > 10 - 14 | > 7 - 9 |
| F | ≤ 16 | ≤ 13 | ≤ 10 | ≤ 7 |

▪▪▪▪▪ Dotted line represents the transition between LOS "C" and LOS "D"

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